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MEDICAL COLLEGE  
1911-1912

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CORNELL UNIVERSITY MEDICAL COLLEGE

C O R N E L L  
U N I V E R S I T Y  
M E D I C A L B U L L E T I N

ANNOUNCEMENT  
OF THE  
MEDICAL COLLEGE.

NEW YORK AND ITHACA

1911-1912

JULY, 1911  
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## CALENDAR.

1911.

- Sept. 18. Monday—Examinations begin for admission to the first year of all departments of the University.  
Sept. 25. Monday—Examinations begin for conditioned students and for those applying for advanced standing in the medical department.  
Sept. 27. Wednesday—College opens.  
Nov. 7. Tuesday—Election day. Legal holiday.  
Nov. 23. Thursday—Thanksgiving recess begins.  
Nov. 27. Monday—Thanksgiving recess ends.  
Dec. 20. Wednesday—First term ends.  
Dec. 21. Thursday—Christmas recess begins.

1912.

- Jan. 3. Wednesday, 9 A.M.—Second term begins.  
Feb. 22. Thursday—Legal holiday.  
March 9. Saturday—Second term ends.  
March 11. Monday—Third term begins.  
April 5. Friday—Easter recess begins.  
April 8. Monday, 9 A.M.—Easter recess ends.  
May 25. Saturday—Third term ends.  
May 27. Monday—Examinations begin.  
June 12. Wednesday—Commencement.

The session is sub-divided into three terms or trimesters of eleven, ten, and eleven weeks, respectively, and all courses are scheduled in conformity with this sub-division.

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All students must be registered at the secretary's office at the opening of the session in September. No student will be admitted after October 7th without special permission of the faculty. Immediately after registration the fees must be paid at the treasurer's office.

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Men may take the first year in either New York or Ithaca. Women must take the first year at Ithaca. All students take the last three years in New York.

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\*Term of office (5 years) expires in 1911, the next group of six in 1912, etc., etc., (1) *B.*, elected by Board. (2) *A.*, elected by Alumni. (3) *Gr.*, elected by the New York State Grange for 1910-11. (4) *G.*, appointed by the Governor.

## MEDICAL COLLEGE COUNCIL.

At the foundation of the Medical College the following resolution establishing a Medical College Council and determining its functions was adopted by the Board of Trustees of Cornell University:

*Resolved*, That for the purpose of making recommendations to the Board of Trustees or the Executive Committee in relation to the business management of the Medical College there be established, and there is hereby established, a Medical College Council which shall consist of seven members, to wit: the President of the University (who shall be *ex-officio* chairman), the Director of the Medical College, and three trustees to be elected by the Board of Trustees or the Executive Committee who shall be appointed, one for one year, one for two years, and one for three years, and their successors to be appointed for three years, and two members of the Faculty, to be elected by the Faculty, who shall be appointed, one for one year, and one for two years, and their successors to be appointed for two years, and that all appointments to fill vacancies be made for unexpired terms.

The Council at present consists of the following members:

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L. A. STIMSON,	}	of the Faculty.
W. GILMAN THOMPSON,		

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SWEPSON J. BROOKS, M.D.,

C. P. OBERNDORF, M.D.,

RICHARD KRUNA, M.D.,

THOMAS J. EVANS, M.D.,

HORACE WESTLAKE FRINK, M.D.,

M. E. VAN FLEET, M.D.,

F. W. STECHMANN, M.D.

**Department of Psycho-pathology.**

*Chief of Clinic.*

G. H. KIRBY, M.D.

*Assistant-Physicians.*

C. MACFIE CAMPBELL, M.D.,

H. W. WRIGHT, M.D.

**Department of Pediatrics.**

*Physicians.*

WILLIAM SHANNON, M.D.,

WILLIAM D. TYRRELL, M.D.

*Assistant Physicians.*

EDWIN E. SWIFT, M.D.,

LESTER D. WISE, M.D.,

MAURICE O. MAGID, M.D.

**Department of Dermatology.**

*Chief of Clinic.*

JAMES C. JOHNSTON, M.D.

*Surgeon.*

HANS J. SCHWARTZ, M.D.

*Assistant Surgeons.*

ANDREW J. GILMOUR, M.D.,

EDWARD H. MARSH, M.D.,

EDWARD LOVEJOY, M.D.,

C. C. A. LANGE, M.D.,

W. J. HEIMANN, M.D.

**Department of Otology.**

*Chief of Clinic.*

GEORGE B. McAULIFFE, M.D.

*Assistant Surgeons.*

NATHAN S. ROBERTS, M.D.,

THOMAS A. MULCAHY, M.D.

**Department of Laryngology.**

*Chief of Clinic.*

FRANKLIN T. BURKE, M.D.

*Surgeon.*

WALTER C. MONTGOMERY, M.D.

*Assistant Surgeons.*

E. W. GOODE, M.D.,

FRANCIS W. BALDWIN, M.D.,

ROLLAND D. TOMLINSON, M.D.

**Department of Orthopædics.**

*Surgeon.*

ROBERT E. SOULE, M.D.,

*Assistant Surgeon.*

CORNELL UNIVERSITY MEDICAL COLLEGE.

Department of Radiology.

LEWIS G. COLE, M.D.,

*Assistant.*

JOSEPHINE B. NEAL, M.D.,

Department of Ophthalmology.

*Surgeons.*

J. MARTIN WHEELER, M.D.,

GEORGE W. VANDEGRIFT, M.D.

*Assistant Surgeons.*

EDWARD B. COBURN, M.D.,

D. M. LOMBARDO, M.D.,

Department of Drugs and Supplies.

*Apothecary.*

GUSTAVE T. RUCKERT, Ph.G.

*Assistant Apothecary.*

THEODORE A. CROLLY, Ph.G.

J. THORN WILLSON,

MILTON F. HARRIS,  
*Assistant.*

*Managing Clerk of the College,*

477 First Avenue.







A DEPARTMENT IN THE COLLEGE DISPENSARY



A CORNER IN THE COLLEGE LIBRARY



## GENERAL STATEMENT.

The Medical Department of Cornell University was established in 1898. This undertaking, which had been contemplated by the Trustees for several years, was made possible by the gift to the University of a commodious and fully equipped building designed for medical instruction, and by the bestowal of funds for the generous maintenance of a large and vigorous school for higher education in medicine.

The Main College Building comprises a Medical School and Dispensary, with principal entrance on First Avenue, opposite Bellevue Hospital, and occupies the entire block between Twenty-seventh and Twenty-eighth Streets on First Avenue, extending back 100 feet, thus affording an available space of nearly 20,000 square feet on each of its seven floors. The building is designed in a severe style of Renaissance architecture, and is constructed of Indiana limestone and red brick.

The Loomis Laboratory (founded 1886 by the same munificent hand) serves the purpose of undergraduate instruction, in connection with the laboratories in the College building. It has also been reorganized as a research laboratory, and special departments have been established in bacteriology, physiological chemistry, experimental medicine, and pharmacology. Facilities are thus furnished to graduates in medicine who may desire to pursue further study or original research in the various departments of laboratory investigation.

The street railway cars on Twenty-eighth and Twenty-ninth Streets and on First Avenue pass the college building. The cars of the Metropolitan Street Railway Company transfer to the crosstown cars on Twenty-third and Thirty-fourth Streets which, at First Avenue, pass within five blocks of the College buildings. A convenient station of the Subway line is located at Twenty-eighth Street and Fourth Avenue. The nearest stations of the Manhattan Elevated Railroad are at Twenty-eighth Street on the Third Avenue line and at Twenty-third Street on the Second Avenue line.

## EQUIPMENT AND FACILITIES FOR INSTRUCTION.

The main College building contains six floors and basement, and is so apportioned that the upper floors are devoted to laboratory purposes and the lower floors to the dispensary and offices. The basement contains the engine room, furnishing electric light, heat, power, cold storage and ventilation to the entire plant. In the basement is a steam laundry, locker rooms for students, and an extensive plant devoted to the purpose of radiology.

**The College Dispensary.**—The main floor of the College building contains the offices of the Dean, Secretary, Clerk and Treasurer, a reading room for students, recitation rooms and a large lecture hall. Half of this floor is devoted entirely to the College Dispensary, which contains, in addition to the general waiting room, a suite of rooms each for the Departments of Med-

## CORNELL UNIVERSITY MEDICAL COLLEGE.

icine and Gynæcology, Surgery, Pediatrics, Orthopedics and Radiology. The remaining departments of the Dispensary are provided for in a similar manner on the second floor, where are located the Departments of Psychopathology, Neurology, Genito-Urinary Diseases, Dermatology, Otolaryngology, and Laryngology. Each department in the Dispensary is equipped with its special consultation room, dressing rooms, with a complete filing system for the care of its records, and with a full armamentarium including all the instruments and other apparatus in common use in the special field of each department.

Worthy of special mention is the electrical equipment of the Department of Neurology. A complete collection of aids to teaching is possessed by the Department of Obstetrics, various types of mannikins, casts of pelves, normal and deformed, and reproductions in metal, plaster and paper of various obstetrical lesions, sections of the fetal head, and dissections of the pelvic floor, together with a considerable museum of fetal skulls and pelvic deformities.

The attendance in the dispensary averages about 400 patients daily and annually includes about 15,000 new patients, so that the clinical material is abundant and diversified. The organization is such as to bring the Dispensary into closest touch with the laboratory and research facilities of the College. In the Department of Medicine, especially, students in the third year are assigned to continual service in the Dispensary, and are thus enabled to observe the progress of disease in a considerable number of ambulatory cases that pass under their observation.

The Department of Radiology has been recently refitted and newly equipped with the most modern appliances, and this department, as well as the Laboratory of Clinical Pathology, is in direct connection with the Dispensary, and by coöperation and coördination of work the services of these departments are placed at the constant disposal of the various other departments of the Dispensary for the diagnosis and investigation of disease and for purposes of instruction. The large number of patients in the Dispensary provides many rare and interesting cases as well as the more common types of diseases, and these are used by the Departments of Medicine, Surgery, Neurology, Dermatology and Pediatrics for more extended instruction at the several clinical lectures held in the College lecture room and continued weekly throughout the year, so that the students not only come in contact with a large range of diseases, but the more important subjects are illustrated to the fullest extent by the professors in charge of the several departments.

The following clinics are held throughout the session:

Gynæcology, Professor Polk, Mondays, 3 P.M., Bellevue Hospital.

Medicine, Professor Thompson, Fridays, 3 P.M., Bellevue Hospital; Wednesdays, 11 A.M., College.

Surgery, Professors Stinson, Gibson, Woolsey, Hartwell, Rogers, Wednesdays and Thursdays, 3 P.M., Bellevue Hospital; Wednesdays, 2 P.M., College.

Genito-Urinary, Professor Keyes, Wednesdays, 3 P.M., Bellevue Hospital.

Neurology, Professor Dana, Fridays, 4 P.M., College.

Pediatrics, Professor Winters, Thursdays, 2 P.M., College.

## CORNELL UNIVERSITY MEDICAL COLLEGE.

**The Laboratory of Clinical Pathology** is located on the second floor, and is in communication with the upper portion of the Dispensary, the two comprising an entire floor of the building. The facilities of the laboratory are thus placed in direct relation with the several departments of the Dispensary, and for further facilitating this work provision is made in the several departments in the Dispensary itself for the more simple clinical tests, a member of the staff of Clinical Pathology being in attendance during those hours when the Dispensary is open to patients. In the laboratory of Clinical Pathology is a special room devoted to chemico-pathological research, a laboratory for the use of students, and similar laboratories for the routine work of the Dispensary and Hospital. All of these laboratories are fully equipped with all necessary apparatus for conducting advanced courses in Clinical Microscopy, Clinical Chemistry, Clinical Bacteriology, Hæmatology, Serum Diagnosis, Cyto-Diagnosis and Vaccine Therapy.

The third floor of the main building is divided between the Departments of Chemistry and Physiology.

In the **Department of Chemistry** is a large laboratory devoted entirely to students' use, containing a complete stock of chemical reagents, balance room, apparatus for physiological chemistry and ample desks for the use of students. Adjacent to this laboratory is a preparation and store room for chemical reagents, a large laboratory for chemical research, a balance room for the special use of investigators, room for poison analyses, and the departmental library.

**The Department of Physiology** is sub-divided into several laboratories and rooms, among which, in addition to the offices and library of the Professor and Assistant Professor, are a student laboratory provided with tables and mechanical apparatus and with Sherrington kymographions, as made by Palmer in London. The students' laboratory is well equipped with modern apparatus for the usual experimentation.

The department also contains a chemical laboratory specially equipped for research work in metabolism, balance room, distillation room, surgical operating room of the most approved type, animal rooms, shop for the manufacture and repair of physiological apparatus, and a calorimetry room containing a unique calorimeter of the Atwater-Rosa-Benedict type, constructed small enough to measure the heat production in dogs, babies and dwarfs, and so arranged that the oxygen intake and carbonic acid outgo of an individual can be easily determined.

**The Department of Pathology** occupies almost exclusively the fourth floor of the Main College Building. It comprises a large classroom for histological pathology, and a teaching museum which contains about 1,200 classified specimens arranged for the illustration of types of disease in connection with the instruction in pathology, medicine and surgery. There are a number of the small rooms devoted to the work of the instructors and investigators, a common preparation room, an autopsy room with extensive cold storage facilities specially adapted to the needs of pathological anatomy, a laboratory for investigators and rooms devoted to the staff of instruction.

The laboratories are fully equipped with the apparatus commonly em-

## CORNELL UNIVERSITY MEDICAL COLLEGE.

ployed in Pathology and Pathological Histology. There is also much new and original apparatus. The histological collection is extensive, and a supply of material from several large hospitals is constantly available. A microscopical slide cabinet contains illustrations of all the common, and many of the rare, pathological subjects, being specially rich in tumors.

The Department of Bacteriology, also situated on this floor, consists of a classroom sufficiently large to accommodate 25 students, a large media room, filtration and balance room, a large room for special bacteriological investigation, animal rooms, wash rooms, etc. The department is fully equipped for work in systematic bacteriology and to meet the special demands made upon it for work in immunology. It is provided with a sterile room, which may be made bacteria-free by automatic washing, a large thermostat room maintaining a uniform temperature and incubator space sufficient to meet the requirements of this and allied departments.

A small section of the third and fourth floors is devoted to a lecture room somewhat smaller than that on the first floor.

A class laboratory for normal histology is also located on the fourth floor, and, like the laboratory for pathology, is provided with microscopes for each student.

The main animal quarters occupy four rooms on the sixth floor, where there is abundant and free ventilation.

The Library contains nearly 7,000 bound volumes and a large number of reprints and monographs, including the Birch-Hirschfeld bound collection. It is supplied with about 100 current periodicals in German, French, English and Italian, which include nearly all the more important journals in the field of medical science, and the back files of these periodicals are fairly complete. The library is open to instructors and students, and is frequently used by the several departments; it is in charge of a librarian.

In addition to the College Library, students enjoy certain privileges at the Library of the New York Academy of Medicine, 17 West 43d Street, the second largest medical library in the United States, and at the various public libraries of the city.

The Department of Anatomy occupies the entire fifth floor of the Main College Building. In addition to the small rooms, which serve as offices and laboratories for the Staff of instruction, there is a large dissecting room devoted to students' use, an extensive cold storage and preparation room for the preparation, injection and preservation of material, and several smaller rooms for purposes of special dissection and investigation. The department is supplied with a considerable number of models, which include a complete set of Ziegler's embryological models; there are wet dissections of the various parts of the body for reference use and a small museum of anatomical preparations for teaching purposes. The supply of fresh material from the City Morgue, the Pathological Department, and other sources, is sufficiently ample, so that the department has not felt the necessity of encumbering itself with a large quantity of museum specimens. There are skeletons, illustrative of comparative anatomy, a collection of skulls showing the different anthropological types, and a considerable collection of







THE LOOMIS LABORATORY

## CORNELL UNIVERSITY MEDICAL COLLEGE.

human osteology which is so arranged that the bones of the human skeleton can be loaned, and are at the constant disposal of each student. The microscopical work is provided for in the students' laboratory on the fourth floor, and in a research laboratory devoted to the technic of preparation, and to advanced investigations. The equipment includes an ample supply of microscopes and projection apparatus, microtomes of various types, a considerable collection of normal histological and embryological slides.

**The Loomis Laboratory.**—The Loomis Laboratory consists of five floors and a basement. It houses the Departments of Experimental Pathology, Experimental Therapeutics, the Animal Hospital, and the Department of Pharmacology. With the exception of the last-named department the building is entirely devoted to research conducted under the auspices of the College, as outlined under the above departments. Its laboratories are equipped with all of the apparatus necessary to the prosecution of their researches, and there is on the fifth floor a well equipped department of photography which provides for the photographic work of all departments of the College. The second, and part of the first, floor are entirely devoted to the Departments of Pharmacology and Materia Medica. The laboratory of Pharmacodynamics is equipped for teaching about 25 students. It is provided with tables each equipped for four students. This equipment includes several kymographs of various types, the Brodie clock for time marking, Brodie respiration pump, tambours, manometers, perfusion apparatus, an artificial circulation apparatus devised for this laboratory, microscopes, balances, thermostats, spectroscopes, ergographs, a departmental library, and a museum of materia medica containing about 1,500 specimens conveniently arranged for the use of the students.

The pharmaceutical laboratory is provided with tables and reagents for about 40 students, each student having a locker and drawer in which are provided all the apparatus required in making the more common pharmaceutical preparations.

**Bellevue Hospital.**—This hospital, located on First Avenue directly opposite the Main College Building, has 1,200 beds, and receives 24,000 patients annually. It contains an amphitheatre capable of seating 300 students, and also a number of small operating theatres, where section demonstrations in surgery and gynaecology are made before the class. Connected with the hospital is a hydropathic establishment, where students are shown the practical applications of baths, douches, massage, etc.

The hospital is organized in four divisions, one of which has been placed by the Trustees of the hospital, at the disposal of the Faculty of the Cornell University Medical College for medical instruction. The services thus intrusted to the College include, continuously, 90 medical beds, 90 surgical beds, 32 beds devoted to gynaecology, 22 to genito-urinary diseases, and for one-half the year 54 obstetrical beds, together with equal privileges with the other three divisions, giving continuous opportunity for instruction and research in the wards devoted to the treatment of alcoholic diseases, tuberculosis and the psychopathic diseases.

The visiting staff of the Second, or Cornell, Division is drawn entirely

## CORNELL UNIVERSITY MEDICAL COLLEGE.

from the Faculty and instructors of the College, and by coöperation with the Medical Board of the Hospital this Division has been organized with a view to the best interests of the patients, as well as with a view to furnishing adequate facilities for instruction. The students spend two-thirds of the fourth year in this hospital as clinical or surgical "clerks," and during the preceding years frequent clinical instruction is conducted in its wards, as fully described under "Details of the Plan of Instruction," page 32, *et seq.*

While Bellevue Hospital is provided with an elaborate department of Pathology of its own, the scope of the hospital work of the Cornell Division is broadened by the intimate relation existing between the laboratories of the Medical College and the medical service of the hospital. In addition to the staff provided by the hospital, the College maintains a corps of research workers and special assistants who conduct their routine examinations in extension laboratories equipped by the College in rooms adjacent to the wards of the hospital, and who consummate their major investigations in the more completely equipped laboratories of the College building.

In the fulfillment of the trust imposed upon the Faculty of the College by the Trustees of Bellevue Hospital, the Medical College Staff of the Second Division, appointed by the Trustees on nomination by Cornell University, has been organized with reference to the following *general scheme* or outline:

### HOSPITAL APPOINTEES.

- 1 Visiting Physician or Surgeon, Director (Professor).
- 2 Visiting Physicians or Surgeons (Professors).
- 2 Assistant Visiting Physicians or Surgeons (Professors).
- 4 Adjunct Assistant Visiting Physicians or Surgeons (Instructors).
- 1 Clinical Pathologist (Externe).
- 1 Visiting Ophthalmologist.
- 5 House Staff, *a.* House Physician or Surgeon, 2 years.  
*b.* Senior Physician or Surgeon, 2 years.  
*c.* Junior Physician or Surgeon, 2 years.  
*d.* Junior Physician or Surgeon, 2 years.  
*e.* Physician or Surgeon, 1 year.

### UNIVERSITY APPOINTEES.

- 4 Laboratory Collaborators: *a.* Physiological Chemistry.  
*b.* Applied Pharmacology.  
*c.* Experimental Therapeutics.  
*d.* Medical Physics.

Clinical Clerks (sections of 10).

- 1 Clinical Pathologist for Clinical Clerks.
- 1 Trained Nurse to aid Clinical Clerks.
- 1 Trained Nurse to aid metabolism research.

**New York Hospital.**—Through the courtesy of the Trustees of New York Hospital, Cornell University Medical College is enabled to give certain portions of its instruction in the wards of this institution. Section teaching in medicine and surgery in the third and fourth years is thus pro-



vided for in addition to the facilities offered by Bellevue Hospital, and students are assigned as clinical clerks in the Pediatric wards of this hospital for a period of two weeks in the fourth year of their curriculum.

**St. Luke's Hospital.**—By courtesy of this institution the Adjunct Professor of Surgery is enabled to offer a course in clinical surgery in the wards and operating rooms of St. Luke's Hospital. Students are assigned to this work in the third year of the curriculum.

**The Neurological Institute.**—By courtesy of the Neurological Institute the section work in Nervous Diseases is offered to fourth year students in the wards and Out-Patient Department of this hospital, the students being assigned in small sections during the first term of the fourth year. The Neurological Institute is a hospital of considerable size, devoted to the care of nervous diseases and possessing a complete equipment for neurological examination, diagnosis and treatment.

**Manhattan State Hospital, Ward's Island.**—This hospital is devoted to the care of the mentally incompetent of New York City, and has a capacity of 3,600 patients. Through the courtesy of the authorities the Professor of Psychopathology is enabled to offer clinical instruction in its wards, which is conducted during the entire morning, weekly, for eleven weeks in the fourth year.

In addition to the above, members of the Faculty of Cornell University Medical College hold appointments in the hospitals and dispensaries of the city, and are thus enabled to utilize for teaching purposes a great quantity and variety of clinical material. This is utilized from time to time, as necessity or opportunity arises. The major part of the bedside and clinical instruction is, however, conducted in Bellevue Hospital, which is directly opposite the College.

## REQUIREMENTS FOR ADMISSION.

The Faculty of the Cornell University Medical College are of the opinion that candidates for admission to the medical profession should possess the liberal culture and general education implied by a college degree in Arts or Science. The great advances of recent years in all the natural sciences have led to correspondingly great advances in the practice of medicine and surgery. As a result the usual four-year course in medicine has become so seriously overcrowded, that, if the teaching of medicine and surgery is to keep pace with the advance in knowledge, the strictly medical portion of the curriculum must be extended. It was deemed wise to accomplish this result by requiring that the fundamental branches of Chemistry, Physics, and Biology be pursued before admission to the Medical College. Since most Colleges granting degrees in Arts and Sciences are amply prepared to provide instruction in these fundamental subjects, it is expected that the result may be accomplished by *a standard of admission which shall require the baccalaureate degree* or its equivalent. Without attempting to enter into a discussion of the relative advantages of the course in Science or Arts, the President and Trustees of Cornell University adopted the requirements ad-

## CORNELL UNIVERSITY MEDICAL COLLEGE.

vised by the Faculty of the Medical College for admission to the course leading to the degree of M.D., and since September, 1908, only the following classes of candidates are admitted to the Cornell University Medical College:

I. Graduates of approved colleges or scientific schools; or

II. Seniors in good standing in approved colleges or scientific schools upon condition that their faculty will permit them to substitute the first year in the Cornell University Medical College for the fourth year of their college course, and will confer upon them the bachelor's degree\* upon the satisfactory completion of the year's work; or

III. Persons who give evidence by examinations that they have acquired an equivalent education to that signified by a bachelor's degree, and training sufficient to enable them to profit by the instruction offered in the Medical College.

All candidates for admission to the Cornell University Medical College must have at least such knowledge of physics, inorganic chemistry and biology as may be obtained in college by a year's work in these subjects as indicated below.

**Physics.**—The candidate should have satisfactorily completed a year's work in Physics, comprising at least 90 hours of demonstration and class work, and also work in physical measurement, consisting of at least 90 actual hours in the Laboratory.

**Chemistry.**—The candidate should have satisfactorily completed a year's work in introductory inorganic Chemistry, together with the elements of qualitative and quantitative analysis. The inorganic chemistry should include at least 50 hours of didactic work, consisting either of recitations alone, or of recitations and experimental lectures, and not less than 80 actual hours of Laboratory practice. The course in qualitative analysis should comprise 20 hours of class work and about 90 actual hours of Laboratory work. It should include the detection of the more common acids and bases, and also the analysis of solid mixtures of a composition unknown to the student. The instruction in quantitative analysis should comprise 10 hours of class work and about 50 actual hours of Laboratory practice, and should include both volumetric and gravimetric determinations.

As inorganic chemistry has been eliminated from the medical curriculum it is essential that instruction in this branch shall have been sufficiently complete and thorough to provide an ample foundation for organic chemistry, physiological chemistry and physiology.

**Biology.**—The candidate should have satisfactorily completed a year's work in Biology (or Botany and Zoölogy), comprising at least 90 hours of demonstration and class work, and at least 125 actual hours of Laboratory work. It is recommended that the zoölogical part of the work should include some instruction in Embryology and Histological Technique.

\*No student under this clause is permitted to enter the second year of the medical curriculum without the bachelor's degree obtained after at least three years of undergraduate college work. This clause is intended to provide for those students who by specially directed or by specially proficient work accomplish the essential requirements for a B. S. or B. A. degree during three years of College residence.

## CORNELL UNIVERSITY MEDICAL COLLEGE.

Physics, inorganic chemistry and the general subject of Biology occupy so important a relationship to the study of medicine that the Faculty urge as much time as possible in the preliminary education be devoted to them.

The Trustees felt that it was unfair to refuse the exceptional student of unusual abilities who has obtained independently an education equivalent to that implied by a degree from a college or scientific school, and there will therefore be examiners appointed from the faculties in the different colleges of Cornell University to determine the qualifications of such as may apply for admission under Rule III. of these requirements. The committee in charge of the administration of this rule consists of the President of the University and the Deans of the Faculties of Arts and Sciences and of Medicine. No instance of qualification for admission under Rule III has as yet been encountered.

All applications and communications are to be addressed to the Secretary of the Medical College.

Inasmuch as all students of medicine in New York State are required by law to have previously had an adequate preliminary education, and as this preliminary education must be certified to as sufficient by the State Educational Department, it is advisable that applicants for admission send to the Secretary of the Medical College, at least a month before entering, their diplomas or properly attested certificates of graduation, bearing the seal of an approved college or scientific school, that the secretary may then obtain the requisite "medical student's certificate" from the State authorities.

### ADMISSION TO ADVANCED STANDING.

Medical students who have fulfilled the requirements for admission, and who have satisfactorily completed one or more years in a registered, regular, medical college, are admitted to advanced standing, and on examination are accredited with the time already spent in medical college, and with a satisfactory standing in such subjects as they may pass, subject to the rules indicated on page 66.

### ADMISSION TO SPECIAL COURSES.

Graduates in medicine, or students who desire to pursue a special course without graduation, are admitted to registration as special students, after approval by the head of the department conducting the course. Such special courses do not count in any way as part of the four years' course required of candidates for the degree of doctor in medicine. Further information regarding such courses, fees, etc., may be obtained by addressing the Secretary of the Cornell University Medical College, First Avenue, 27th to 28th Street, New York.

### REQUIREMENTS FOR LICENSE TO PRACTICE MEDICINE IN THE STATE OF NEW YORK.

Graduates of Cornell University are admitted unconditionally to the examinations for license to practice medicine in the State of New York. Further information as to the nature of the requirements of the New York State

## CORNELL UNIVERSITY MEDICAL COLLEGE.

law regulating the practice of medicine may be obtained by consulting the Hand-book issued for gratuitous distribution by the New York State Education Department at Albany, N. Y.

*All requirements for admission to examinations for licensure should be filed with the State Education Department at least one week before examination.*

Examinations for license to practice medicine in this State will be held as follows :

	1911.	1912	
Winter		Jan. 30-Feb. 2	
Spring		May 14-17	
Summer	June 27-30	June 25-28	
Autumn	Sept. 26-29	Sept. 17-20	
	1913	1914	1915.
Winter	Jan. 28-31	Jan. 27-30	May 25-28
Spring	May 20-23	May 19-22	June 29-July 1
Summer	June 24-27	June 23-26	Oct. 5-8
Autumn	Sept. 23-26	Sept. 22-25	Jan. 26-29

### *Places.*

New York, Albany, Syracuse, Buffalo.

## CHARGES FOR INSTRUCTION.

### *First Year.*

Registration.....	\$5.00
Tuition .....	150.00
Laboratory fees .....	35.00
	————— \$190.00

### *Second Year.*

Tuition .....	\$150.00
Laboratory fees .....	35.00
	————— \$185.00

### *Third Year.*

Tuition .....	\$150.00
Laboratory fees .....	35.00
	————— \$185.00

### *Fourth Year.*

Tuition .....	\$150.00
Laboratory fees .....	25.00
Final Examination fee.....	25.00
	————— \$200.00

The registration fee is payable only once, on entrance.

The final examination fee is payable on registering for graduation. All other fees are payable at the beginning of the term, but in special cases they may be paid semi-annually in advance. No rebate will be made in any case.

No remission of laboratory fees will be made because of previous instruction elsewhere in the subjects.

Each student is required to pay to the clerk of the College the following amounts to cover breakage in the Laboratories and Dispensary departments :

## CORNELL UNIVERSITY MEDICAL COLLEGE.

1st year, Laboratory and Dispensary.....	\$10.00
2d year, Laboratory and Dispensary.....	10.00
3d year, Laboratory and Dispensary.....	10.00
4th year, Dispensary.....	5.00

A deposit of \$5 will be required of each student who desires to withdraw books from the library.

These deposits, less the amount charged for breakage, will be returned at the end of each year.

Tickets must be taken out and paid for at the beginning of the session.

### SPECIAL STUDENTS.

Special students, on the recommendation of the head of the department concerned, may be admitted to any of the courses of instruction offered in the College, or to any course of instruction especially provided, on the payment of a registration fee of five dollars (unless previously registered) and a tuition fee of twenty-five dollars. Special courses do not entitle the student to credit toward graduation. (See page 25.)

### EXPENSES OF STUDENTS.

The following estimate of the annual expenses of a candidate for a degree in the Medical School is based on the statements of students:

	<i>Low.</i>	<i>Average.</i>	<i>Liberal.</i>
Tuition .....	\$190	\$190	\$190
College incidentals .....	20	26	30
Books .....	16	28	35
Room and board.....	227	275	350 up
	<hr/>	<hr/>	<hr/>
Total .....	\$453	\$519	\$605

To these expenses should be added the cost of clothes, laundry and personal incidentals, which must vary with each individual.



## GENERAL STATEMENT OF THE PLAN OF INSTRUCTION.

The function of a Medical Department in a University is primarily to produce practitioners of the art of medicine of the highest possible efficiency. Within a comparatively recent period, however, this definition has become capable of interpretation in a much broader sense in that the school must include among its students not only those whose life is to be spent in the treatment of disease, but those who intend to become teachers of this art or of the branches of natural science upon which the art depends, as well as those who will devote their energies to advancing these sciences by research and to work connected with the public service. The Medical Department of the University has therefore developed into a school whose students are to be prepared to become practitioners of medicine and surgery, teachers of these subjects and their subsidiary branches, and investigators of biological problems which pertain to human disease and "preventive medicine." To reach this ideal, and to relieve the Medical Department from instruction in subjects which belong to natural science in general and not strictly to the medical curriculum, it is necessary that the students should have received the best possible preliminary education, which must include, in addition to the mental training implied by the baccalaureate degree, the amount of physics, inorganic chemistry and general biology outlined in the requirements for admission. As these courses are now given in practically all colleges, it suffices to point out their necessity to every prospective student of medicine, and to require that they each be pursued for at least one year as ordinarily given in the college, and then the education preliminary to entering upon the medical course can be considered the best obtainable, though not necessarily the best possible.

In arranging the course of study the subjects pertaining to pure rather than applied science are grouped in the first year of the medical course, those of the applied science in the second year, and the so-called practical subjects in the second, third and fourth years.

The fourth year of the medical curriculum is devoted largely to clinical instruction in the various aspects of medicine and surgery, with bedside instruction and ample opportunity for the careful study of medical cases by continuous service in the hospital wards. Some opportunity for elective courses is allowed, but all students must take at least the minimum amount of the subjects which form the basis of the general practitioner's usefulness, and all are thus necessarily prepared for successfully undergoing the usual competition for appointments as hospital internes, positions in the public service, and examinations for licensure by the State.

Custom and experience are in favor of a long summer vacation, and the utilization of the cool months alone for teaching. The Faculty have therefore decided on a period of thirty-two actual working weeks exclusive of the time occupied by holidays and examinations. This working period is

divided into three terms, the first of eleven, the second of ten, and the third of eleven weeks. By this arrangement it is possible to obtain a certain degree of "concentration" in the teaching of those subjects in which that plan is advantageous, and it is thus also possible to maintain a proper sequence in the curriculum.

**In the first year** anatomy, histology, comparative morphology and organic chemistry occupy the entire first term. Anatomy, organology, exclusive of the central nervous system, organic chemistry with laboratory experiments, and embryology are placed in the second term. Neurological anatomy and histology, physiological chemistry, and physiology complete the year.

**In the second year** the first term is occupied with applied and surgical anatomy, physiology, and pharmacy, and the study of medicine, surgery and obstetrics are begun by text-book recitations and conferences, and continued throughout the year.

In the second term the physiology of the nervous system is completed and the study of practical medicine is begun, with a course in physical diagnosis upon ambulatory cases. The study of pharmacy advances to a consideration of pharmaco-dynamics, which demonstrates the possible modifications of normal physiological processes by drugs and other therapeutic means.

The afternoons of the third term are largely occupied by the course in bacteriology. In the mornings gross and histological pathology are begun. During this term the work in surgery is carried forward and surgical diagnosis on ambulatory cases is begun.

**In the third year** the didactic work in medicine and surgery is carried forward by means of recitations or conferences throughout the year, with a course of lectures during the first term. In the first term of the third year general pathological histology is completed, and in the second term a portion of three mornings a week is devoted to special surgical pathology and the pathological histology of the nervous system. The subject of gross pathology is pursued throughout the year, carrying forward and accomplishing the work already begun in the latter part of the second year. The student is introduced to the method of performing autopsies for pathological diagnosis, the work being conducted in the laboratories of the College and in the City Morgue in connection with Bellevue Hospital. In the mornings of the second term the laboratory phases of medicine are demonstrated by an ample course in clinical pathology in which the methods are demonstrated in the laboratory and their application to the patient taught in the wards of Bellevue Hospital.

The pharmacological course of the preceding year is carried forward in the third year by a course of didactic and clinical lectures, accompanied by demonstrations in the wards of Bellevue Hospital, in which the principles of pharmaco-dynamics are applied to the human patient to demonstrate the effects of drugs and other therapeutic measures in accomplishing the relief and cure of disease. During the second and third terms recitations and conferences supplement the work of the lecture room and clinic.

The clinical work is pursued throughout the year, the class being divided

into small sections for diagnostic and clinical instruction in the wards of Bellevue and other hospitals and in the College dispensary. The course in obstetrics is completed during this year by means of clinical and didactic lectures, the observation of parturient patients in the wards of Bellevue and Manhattan Maternity Hospitals, and by section conferences in the hospital wards and with the manikin. Each student must, during the summer vacation, between the third and fourth years, pursue a course in practical obstetrics in which he comes into contact with, and personally delivers, at least six cases. The service in this course is ample, and as a rule the student handles several times the required number of cases.

The Faculty earnestly recommend that this maternity work be accomplished in the summer, preferably of the third year. If taken during the regular winter session much loss in other work may result.

Instruction in the more important specialties is begun in the third year by means of weekly clinical lectures by the professors of neurology and pediatrics, and both clinical lectures and section conferences in genito-urinary diseases during the second and third terms. In these same terms the study of gynecology is begun by means of recitations and in the third term a preliminary course in hygiene completes the work of the year.

**In the fourth year** the work of the previous years is carried forward to completion. Didactic instruction in medicine and surgery is completed in the first term, and is amplified by section teaching at the bedside in the wards of Bellevue and New York Hospitals.

Instruction in the specialties is made the distinguishing feature of the first term. The courses consist of explanatory lectures and conferences, accompanied by systematic instruction in the examination of patients, diagnosis of disease, and the application of methods of observation and treatment peculiar to these branches of medicine. Each student receives 14 to 20 hours of instruction in each of the medical and surgical specialties, the time varying with the subject. The student is thus made sufficiently proficient in the use of instruments and in the ability to make diagnoses in the specialized branches of medicine to become a competent general practitioner. Since no attempt is made to produce experts, this work is completed in the first term of eleven weeks, leaving the remaining terms to be devoted to extensive work and instruction in the hospital wards.

The second and third terms are given up entirely to ward work, students being assigned as clinical clerks to the investigation of disease in the wards of the hospitals. In order to more fully provide for so extensive courses the service of the Second Division of Bellevue Hospital, which is under the exclusive control of Cornell, has been reorganized under the direction of the Professors of Medicine and Surgery giving continuous periods of service throughout the College year to those of the Faculty who form the Visiting Staff of this division of the hospital. This Staff is augmented by an ample corps of assistant visiting physicians and research workers selected from among the assistant professors, instructors and laboratory workers of the Medical School.

The student is thus introduced directly to the work of the hospital ward,



and by continuous service is enabled to study a considerable number of cases from their admission to the hospital to their completion. The student is required to examine patients and record histories which become part of the hospital records, to make physical examinations and diagnoses of the patients consigned to their care, to perform clinical examinations in the laboratories of the hospital and college under the direction of a trained instructor from the Department of Clinical Pathology, and to become thoroughly proficient in the history of the diseases met in the wards of a large hospital during the continuous service of 21 weeks. All of this work is carried on under the immediate direction of the Professors of Medicine, Surgery, and Therapeutics, and under the constant supervision of an able corps of instruction which includes the entire staff of the Second Division of Bellevue Hospital, and instructors and research workers of the medical school, from its laboratories of Pathology, Clinical Pathology, Experimental Pathology, Experimental Therapeutics and Physiology.

Ward work on the above lines in the second term is devoted entirely to surgery and to the more important medical and surgical specialties, which include Pediatrics, Neurology, Gynæcology, Orthopædics, and Genito-Urinary Surgery, wards in New York Hospital, in addition to those of Bellevue Hospital, being placed at the disposal of the College for an extension of work in these specialties.

The third term of 11 weeks is devoted entirely to ward work in medicine and therapeutics, together with a weekly lecture by the Professor of Therapeutics, as in the previous term, in which the most modern and approved methods of treatment are outlined for the benefit of the student. Besides the opportunity afforded for the observation of a large number and variety of medical cases during this continuous service in the wards of Bellevue Hospital, each student is expected to make a complete study of 50 to 100 cases, in connection with which much collateral reading is assigned, thus laying the foundation for valuable future work of an original character.

The extensive opportunity for continuous ward work afforded by the curriculum of the fourth year in no wise replaces the valuable work afforded by hospital internship, but is in a way preparatory thereto. Every graduate of this medical school is expected to pursue the usual interne service in some hospital, our graduates having little or no difficulty in obtaining the best positions under competitive examination in addition to those appointments directly and indirectly controlled by this school. Without prolonged hospital training no physician should attempt to practice or to teach, and no specialist can be worthy of the name, who has not had the broad foundation ensured by such a service.

## DETAILS OF THE PLAN OF INSTRUCTION.

### THE DEPARTMENT OF ANATOMY.

CHARLES R. STOCKARD, M.S., Ph.D., *Professor of Anatomy.*

IRVING S. HAYNES, M.D., *Professor of Applied Anatomy.*

JEREMIAH S. FERGUSON, M.S., M.D., *Assistant Professor of Histology.*

ISRAEL STRAUSS, M.D., *Instructor in Gross and Microscopical Anatomy of the Nervous System.*

WESLEY M. BALDWIN, A.M., M.D., *Instructor in Anatomy.*

J. F. GUDERNATSCH, *Instructor in Embryology and Experimental Morphology.*

J. F. MCCLENLON, Ph.D., *Instructor in Histology and Embryology.*

—————, *Instructor in Anatomy.*

—————, *Assistant in Anatomy.*

DOROTHY CRAIG, A.B., *Assistant in Anatomy.*

ALBERT S. CRAWFORD, B.S., *Assistant in Anatomy.*

—————, *Assistant in Anatomy.*

#### I. Morphology.

**Structure of Man.**—This course considers the structure of the various organs and systems of the human body in the light of their variations and plasticity. The organs of man are analyzed by comparison with the simpler ones of lower mammals and other vertebrates. The relationships of the parts of the organs and systems are also explained by numerous facts gathered from experimental morphological studies of lower vertebrates.

The chief aim is to instill into the student the idea that animal structures are constantly changing and varying, yet are so definite as to lend themselves to logical analysis.

The structure of the integument, muscles, skeleton, alimentary tract, respiratory organs, reproductive and excretory systems, and organs of special sense are demonstrated in the several vertebrate groups and compared with the systems in man. The student should have a previous knowledge of vertebrate comparative anatomy.

Special direction is also given to those students wishing to investigate problems in experimental and comparative anatomy.

Laboratory, 10 hours (elective), and demonstration conferences, 22 hours (required).

*Text books.*—Wiedersheim's *Comparative Anatomy and Bau des Menschen*, Wilder's *History of Man*, together with special works and monographs on the subject.

Professor Stockard and Mr. Gudernatsch.

#### II. Embryology.

The work in embryology presupposes a general course in the subject and embraces a brief review of karyokinesis in its various phases; fertilization





DISSECTING ROOM, DEPARTMENT OF ANATOMY

with consideration of heredity; cleavage as represented in the several types of vertebrate eggs; the processes of gastrulation and formation of germ layers, and a more thorough study of the development of the organs and systems in the bird, pig, and human embryo.

Serial sections, transverse and sagittal, of embryos at various developmental stages are provided, and models are employed for illustration. The lectures and conferences are devoted to a discussion of the theories of development, and to a comparison of the phases in different groups of vertebrates with the embryology of man as the objective point. Special attention is devoted to those stages of development at which abnormalities, monsters and tumor-like inclusions are most likely to occur. The causes of such anomalies are considered in the light of experimental embryology. The student is directed in collateral reading on these topics.

Laboratory, 70 hours; lectures, 10 hours. Required in the middle term of the first year.

*Text-books.*—McMurrich, *The Development of the Human Body*, Hertwig's *Embryology of Man and Mammals*, and special works.

Professor Stockard, Dr. McClendon, Mr. Gudernatsch, and \_\_\_\_\_.

### III. Histology.

**COURSE I. HISTOLOGICAL TECHNIC.**—This course considers the preparation of tissue for microscopical examination. The work is specially designed for those students whose preliminary training in biology failed to include microscopical technic; it serves as a preparation for the further work of Courses II, III and IV. This course should be elected at the beginning of the first term. Laboratory work at available hours. Elective.

**COURSE II. GENERAL HISTOLOGY.**—All the primary tissues of the body, including the vascular and lymphatic systems, are systematically studied both in the fresh condition and by means of stained sections. Teased preparations and frozen sections will be used extensively, and tissues studied with the aid of both dissecting and compound microscopes. Since brief courses in general histology and histological technic are usually included in a year's instruction in biology, this course proceeds rapidly, being partly a review and an amplification of the requirements for admission. Laboratory and recitation conferences, 9 hours weekly; October and November. Required of all first year students.

**COURSE III. MICROSCOPIC ANATOMY AND ORGANOLOGY.**—The form and structure of all the abdominal and thoracic viscera and the organs of special sense are studied by means of (a) demonstrations of organs *in situ* and their examination by the class, (b) the systematic examination of fresh organs removed at autopsy (of which the supply is abundant) and their dissection and microscopic examination by the class, (c) the systematic study of microscopic slides exhibiting the typical structure of each of the viscera, the permanent microscopic sections being directly compared with specimens prepared by the student from the same portions of fresh human organs. Animal tissues other than human form the basis of this course only in so far as their structure may be utilized to amplify and elucidate the structure of man. In connection with the preceding course the microscopic structure



of the entire body, except only the central nervous system (see neuro-histology) is covered. Laboratory and conferences 9 hours weekly; December to March. Required of all first year students.

**COURSE IV. ADVANCED WORK AND RESEARCH.**—Each student receives individual attention in the laboratory. The more apt and proficient are thus enabled to advance rapidly through the work of the preliminary courses. Such students, who have satisfactorily completed Courses I and II, are at liberty to elect Course IV, in which they will pursue such subjects as may have proved of special individual interest, and, if sufficiently proficient, topics for research will be suggested. This course is elective to all students who have completed the necessary preliminary work and who are in possession of a reading knowledge of French and German. Those who have had advanced biological training may elect this work at the beginning of the first year course. The student who elects this course is expected to devote to it at least 6 hours weekly.

*Text-book.*—Ferguson's *Histology and Microscopical Anatomy*, and for reference Kölliker's *Gewebelehre*, Bd. III; Gegenbaur, *Lehrbuch der Anatomie des Menschen*, Bd. I.

Assistant Professor Ferguson and Dr. McClendon.

#### IV. Descriptive Anatomy of the Human Body.

This is taught by means of laboratory exercises held in the dissecting room at stated hours.

The following are the courses required:

COURSE I. THE UPPER EXTREMITY.

COURSE II. THE HEAD AND NECK.

COURSE III. THE LOWER EXTREMITY.

COURSE IV. THE THORAX.

COURSE V. THE ABDOMEN AND PELVIS.

The required work in each of the above courses includes:

(a) Dissection of the part.

(b) Demonstrations, study, and recitations upon dissected and prepared specimens, and from standard text-books.

(c) Daily quizzes and recitations upon the work of the day during the entire period of each course.

(d) An oral examination at the completion of each course.

Total laboratory hours, 288 (minimum). First and second terms of the first year.

**COURSE VI. A DEMONSTRATION COURSE.** Optional for the first year students. Demonstrations upon the cadaver, models and dissected preparations, amplifying the courses in dissection during the first and second terms of the first year.

**COURSE VII. STUDY ROOM COURSE IN LIVE ANATOMY.**

Since the ultimate aim of dissection is to acquaint the student not merely with the arrangement of structures in the cadaver, but with the facts of the living body, this course follows as a natural sequence to the work of the dissecting room. In it through the study of living models and of one's own body there is a practical and a most essential correlation of the facts ascer-

tained in the dissecting room with the features of the living body as they are presented to the eye and to the touch. Optional to first year students.

**COURSE VIII. DISSECTION REVIEW.**

The work covers a repetition of Courses I-V, giving an opportunity for advanced dissection. Optional to students of the second, third, or fourth year. Afternoons.

**COURSE IX. A STUDY ROOM COURSE ON THE ANATOMY OF THE INFANT.**

**COURSE X. A COURSE IN DISSECTION FOR SPECIAL STUDENTS.**

*Text-books.*—Cunningham's *Manual of Practical Anatomy*, two vols.; Cunningham's *Text-book of Anatomy*. Spalteholz's *Atlas of Human Anatomy*.

Professor Stockard, instructors and assistants.

**V. Neuro-Anatomy and Neuro-Histology.**

(a) This course is given in the third term of the first year. It consists of a practical course upon the gross anatomy of the brain, conducted in the laboratory by means of dissections of the human brain, a study of prepared specimens, sections, and models, with demonstrations and recitations.

Laboratory, 22 hours. Required of all first year students.

(b) The histology of the central nervous system, together with the fibre-tracts and the nuclei, are studied. In connection with this course lectures and demonstrations upon the physiology of the central nervous system are given in conjunction with the department of physiology.

Laboratory, 66 hours. Required of all first year students.

Dr. Strauss.

**VI. Applied and Topographical Anatomy.**

This course is given during the first term of the second year. It is conducted as a laboratory exercise, together with recitations assigned from a standard text-book on applied anatomy. The students will study dissected and prepared specimens showing the anatomy of the various regions and upon these, and the whole subject, will demonstrate the important facts of regional and topographical anatomy as applied to the practice of medicine and surgery.

Laboratory, 66 hours.

*Text-book.*—Woolsey's *Applied Surgical Anatomy*.

Professor Haynes.

**VII. Elective Courses Preparatory to the Specialties.**

Optional for students of the third and fourth years. These courses offer a thorough review of the embryology, histology and gross anatomy of the following organs and systems:

(a) The eye.

(b) The ear.

(c) The face and neck, including especially the nose and accessory sinuses, the mouth and salivary glands, pharynx and larynx, thyroid and parathyroid glands.

(d) The genito-urinary system, male and female.

(e) The brain and spinal cord.

(f) The thorax and abdomen.



(g) The extremities, especially the joints and their mechanics.  
Laboratory, 40 hours.

Professors Stockard, Haynes, Ferguson and instructors.

### VIII. Anatomical Research.

To students desiring to pursue research in anatomical subjects the equipment of the entire department is available. Members of the staff will gladly assign subjects and direct the progress of advanced work of this type. The course may be elected by students who enter with advanced credits, or by any student who has completed the preliminary courses in descriptive anatomy, histology and embryology. The course is also open to graduates in medicine or biology.

### PHYSIOLOGY.

GRAHAM LUSK, Ph.D., Sc.D., *Professor of Physiology.*

JOHN R. MURLIN, Ph.D., *Assistant Professor.*

CARL J. WIGGERS, M.D., *Instructor.*

J. A. RICHE, *Assistant.*

Instruction in physiology begins with the students of the first year during the third term of that year. The object of this preliminary course is to furnish a sound foundation upon which to base the systematic instruction of the second year. The work of the first year consists in the demonstration of the fundamental experiments in physiology, recitations and personal instruction. The laboratory course of this year commences with a study of the physiology of the blood and circulation.

The larger part of the course in physiology is given during the first half of the second year. There is a daily lecture. Following this, during three morning periods of three hours each, the student is in the laboratory and executes for himself the more important experiments concerned with animal and human physiology. The phenomena of secretion, respiration, metabolism, the nervous system, special senses, and psychic relations are also taken up experimentally. Each student is examined before he leaves the laboratory for the day, in order to make sure that he understands what he has been doing.

One written and two oral recitations are held weekly. There is also a weekly conference at which the student may present in abstract form the contents of some classical paper on a great discovery in physiology, or the review of a recently published article of physiological import. The student is encouraged to use the library as he does the laboratory, since both are essential to correct thinking. A knowledge of French and especially of German is desirable in this connection.

Research workers who will give half or the whole of their day will be welcomed in the laboratory and granted every facility.

SUMMARY.		
	<i>First Year.</i>	<i>Second Year.</i>
Lectures .....		96 hours.
Recitations .....		48 hours.
Laboratory .....	66 hours.	144 hours.

*Text-books.*—Howell's or Stewart's *Physiology*; Lusk, *Science of Nutrition*.

*Collateral Reading.*—Scientific journals.





STUDENTS' LABORATORY, DEPARTMENT OF CHEMISTRY



STUDENTS' LABORATORY, DEPARTMENT OF PHYSIOLOGY

# CHEMISTRY.

STANLEY R. BENEDICT, Ph.D., *Assistant Professor of Chemistry.*

H. L. FISHER, A.M., *Instructor.*

The instruction in chemistry is concentrated in the first year, and is arranged upon the assumption that the student is already thoroughly grounded in the principles of chemistry and in physical chemistry. The object aimed at is to impart that fundamental knowledge of organic and physiological chemistry which is necessary to the comprehension of the bearings of chemistry upon physiology, pharmacology and medicine.

**Lectures.**—There will be two lectures weekly during the first and second terms upon organic chemistry. The subject will be discussed to an extent sufficient to impart a knowledge of the principles of combination and reactions of the carbon compounds, and the properties and relationships of those which are of physiological, toxicological or therapeutical interest.

**Recitations.**—There will be one recitation weekly during the second term, and two weekly during the third. These recitations are largely in the nature of a conference.

**Laboratory Work.**—During the second term there will be two two-hour sessions weekly in organic chemistry. An extended course in this subject is obviously impossible in so brief a period. This work will therefore be directed mainly to an amplification of the lectures and recitations on those points in which laboratory manipulations are desirable.

During the third term there will be three three-hour laboratory sessions in physiological and clinical chemistry. This course will include the study of the reactions of the carbohydrates, fats and proteins; of the composition of the salivary, gastric, pancreatic and intestinal secretions and the bile, and their actions in digestion; of the fæces, urine, blood and milk; and of the examination of pathological fluids, concretions, stomach contents, etc. The study of metabolism will receive particular attention. The arrangement of this course is in coaptation with those in physiology and in clinical pathology.

In the laboratory courses each student is supplied with all apparatus and chemicals required.

**Research.**—The laboratory will be open during "optional hours" to students of any year who desire to prosecute advanced work or research, subject to the regulations of the office.

SUMMARY.		1st Year.
Recitations .....		32
Laboratory .....		139
Lectures .....		42

**Text-books.**—Witthaus, *Manual of Chemistry*, sixth edition; Holleman, *Laboratory Manual*; Hawk, *Practical Physiological Chemistry*, third edition.

# PHARMACOLOGY AND MATERIA MEDICA.

ROBERT ANTHONY HATCHER, Ph.G., M.D., *Professor of Pharmacology and Materia Medica.*

CARY EGGLESTON, M.D., *Instructor in Pharmacology.*

—————, *Instructor in Materia Medica.*

Work in this department is offered during the second year.

## *Materia Medica and Pharmacy.*

*I. Laboratory.*—Four hours a week during the first trimester will be devoted to the consideration of crude drugs and their preparations. The Pharmacopœial preparations of the different pharmaceutical classes will be made by the students, and demonstrations and individual practice will be given in the more common incompatibilities to be avoided in prescriptions. Some of the demonstrations are intended to show the simplicity of certain processes often deemed difficult or impossible without special apparatus.

Each laboratory exercise will be preceded by an informal discussion of the work to be done.

*II. Advanced Pharmacy, Elective.*—A more extensive knowledge of Pharmacy than that given in the first trimester, although desirable, is not essential to the medical student. Opportunity will be afforded for extending the regular course and for the chemical examination of vegetable drugs.

## *Pharmacology.*

*III. Lectures.*—During the second trimester forty-five hours will be devoted to lectures, conferences, and written reviews on Systematic Pharmacology. The lectures will be illustrated in part by demonstrations and by tracings taken from research experiments. Dr. Hatcher.

*IV. Laboratory.*—Concurrently with the lectures on Systematic Pharmacology ninety hours will be devoted to the laboratory study of the subject. The experiments are designed to illustrate a wide range of pharmacologic actions, the more important drugs being considered with reference to their actions on different structures. Professor Hatcher and Dr. Eggleston.

*V. Research. Elective.*—Students will be encouraged to conduct original research under the supervision of the several members of the staff. Such work affords a valuable insight into pharmacologic methods, and assists in the formation of a correct estimate of the original work of others.

## SUMMARY.

	<i>Second Year.</i>
Lectures .....	35 hours.
Recitations .....	20 hours.
Laboratory .....	134 hours.

*Text-book.*—Sollmann, *A Text-book of Pharmacology.*

*Collateral Reading.*—Cushny, *Pharmacology and Therapeutics*; Schmiedeberg, *Pharmacologie*; Heinz, *Handbuch der experiment. Path. und Pharmacologie*; Kobert, *Lehrbuch der Intoxicationen*; Hatcher and Sollmann, *A Text-book of Materia Medica*; Coleman, *A Syllabus of Materia Medica*; Arny, *Principles of Pharmacy.*



# APPLIED PHARMACOLOGY.

WARREN COLEMAN, M.D., *Professor of Clinical Medicine and Applied Pharmacology.*

EUGENE F. DuBOIS, M.D., *Instructor in Applied Pharmacology.*

SAMUEL MILBANK, *Instructor in Applied Pharmacology.*

Work in this department will be confined to the third year, and will consist of didactic lectures, clinical demonstrations of the actions of drugs and methods of treatment of disease without drugs, and recitations. The treatment of disease is considered from the standpoint of the remedy, and the course is intended to connect the pharmacology of drugs, considered in the second year, with the therapeutics of disease, which is more completely elaborated in the fourth year of the course.

**Lectures.**—One didactic lecture will be given each week throughout the year upon the actions of the more important drugs in disease and diseased conditions. Special attention will be devoted to practical considerations, such as the effects of different doses, time and methods of administration, side-actions, and the symptomatology and treatment of the toxic effects of drugs. Professor Coleman.

**Clinical Demonstrations** will be given in the wards of Bellevue Hospital, illustrating the therapeutic actions of such drugs as the patients may require. Blood-pressure observations and pulse-tracings will be made in appropriate cases. Demonstrations will also be given of the methods of employing counter-irritants, blisters, cups and the actual cautery; hydrotherapy, lavage of the stomach, cleansing and nutrient enemata, and colon irrigations; methods of resuscitation after submersion; massage and resistance movements. As opportunity offers, the operations of venesection, paracentesis, lumbar puncture, hypodermoclysis, and saline infusions will be demonstrated. Professor Coleman and Dr. DuBois.

**Recitations.**—Twenty-one recitations will be held in the second and third trimesters upon the subjects covered in the lectures and clinical demonstrations. Dr. Milbank.

## SUMMARY.

	3d Year.
Lectures .....	32 hours.
Clinical demonstrations .....	42 hours.
Recitations .....	21 hours.

*Text-book.*—Sollmann, *A Text-book of Pharmacology.*

*Collateral Reading.*—Cushny, *Pharmacology and Therapeutics*; Schmiedeburg, *Pharmacologie*; Heinz, *Handbuch der experiment. Path. und Pharmacologie*; Kobert, *Lehrbuch der Intoxicationen*; Hatcher and Sollmann, *A Text-book of Materia Medica*; Coleman, *A Syllabus of Materia Medica*; Arny, *Principles of Pharmacy.*

CORNELL UNIVERSITY MEDICAL COLLEGE

MEDICINE.

W. GILMAN THOMPSON, M.D., *Professor of Medicine.*

THOMAS WOOD HASTINGS, M.D., *Professor of Clinical Pathology.*

ALEXANDER LAMBERT, M.D., *Professor of Clinical Medicine.*

CHARLES E. NAMMACK, M.D., *Professor of Clinical Medicine.*

LEWIS A. CONNER, M.D., *Professor of Clinical Medicine.*

*Instructors and Assistants,*

WALTER L. NILES, M.D.,

MONTGOMERY H. SICARD, M.D.,

FREDERICK L. KEAYS, M.D.,

BERT R. HOOBLER, M.D.,

JOHN H. RICHARDS, M.D.,

ROLFE FLOYD, M.D.,

WILLIAM H. SHELDON, M.D.,

WILLIAM TOMKINS, M.D.,

T. HOMER COFFEN, M.D.,

ALBERT C. CREHORE, Ph.D.

The Course of Medicine comprises a graded plan of study extending throughout three years. General didactic lectures upon the practice of medicine are almost wholly supplanted by bedside and dispensary instruction and systematic recitations from text-books. The course includes the following subdivisions:

Second Year:

(1) Recitations from a text-book upon medicine covering elementary topics with written reviews.

(2) Physical diagnosis of the heart and lungs, with systematic physical examination of the entire body in health and disease, and methods of recording observations.

Third Year:

1. Recitations from an advanced text-book, with written reviews.
2. Physical diagnosis continued.
3. History recording.
4. Bedside course in symptomatology.
5. Dispensary courses in general medicine.
6. Clinical pathology.
7. Twenty-two lectures on symptomatology.
8. Hospital medical clinics.

Fourth Year:

1. Advanced bedside study in symptomatology, diagnosis, and treatment, conducted while acting as "Clinical Clerks" in the wards of Bellevue Hospital.

2. Work in the Out-patient Clinic as "Clinical Clerks."

3. Demonstrations of patients by the student before the class in the Out-patient Clinic.

4. Physical diagnosis.

5. Hospital medical diagnosis clinics.

6. Elective advanced work in clinical diagnosis, clinical pathology, history recording, etc.

The details of the methods of instruction in medicine for each year of the curriculum are as follows:



## CORNELL UNIVERSITY MEDICAL COLLEGE.

### SECOND YEAR.

**Recitations.**—Second year students begin the study of medicine with systematic recitations once each week throughout the year from a text-book on the Practice of Medicine, in which the subjects of nomenclature, etiology, morbid anatomy, and typical symptoms are dwelt on.

**Physical Diagnosis.**—This course covers 96 hours, and is conducted in the Out-patient Clinic in which the service is large and varied. Students are not only thoroughly instructed in the physical diagnosis of the heart and lungs, but are taught the systematic observation of the entire body in health and disease. They are familiarized with the use of instruments of precision and recording apparatus, and are assisted by the demonstration of models and diagrams.

### THIRD YEAR.

**Recitations.**—Third year students recite twice each week from a text-book on the Practice of Medicine, special emphasis being given to symptomatology, complications, diagnosis, and treatment.

Written reviews are held at intervals to familiarize the student with examinations. All recitations are obligatory, and the recitation marks received form an important component of the final examination marks of the year.

**Lectures.**—A course of twenty-two lectures upon general symptomatology is given by the Professor of Medicine, which is designed as introductory to systematic bedside teaching.

**General Medical Clinics.**—Students of the third year are required to attend a clinic in medical diagnosis conducted by Professor Thompson, as described for the fourth year. This clinic is held weekly in the amphitheatre of Bellevue Hospital.

Medical Diagnosis is taught in sections in the Out-patient Clinic during two terms. Students are instructed in methods of history taking, and each student has opportunity personally to examine patients, record their symptoms and follow the effects of treatment suggested for them. The study of systematic physical diagnosis of the thoracic and other organs, begun in the second year, is continued and applied to conditions of disease.

**Ward Work.**—During the last term of the year ward instruction is given to the class in sections at the bedside in Bellevue Hospital, under direction of the Professor of Medicine and in the New York Hospital under Professor Conner. Examples of all the common diseases are studied, and the student has opportunity personally to examine many cases of disease in different stages of development, and to follow their daily progress.

**Clinical Pathology.**—See below.

### FOURTH YEAR.

The instruction in the fourth year is most comprehensive and practical, and will comprise clinics in the hospitals and dispensaries, clinical clerkship, ward work, clinical laboratory exercises and a limited number of optional courses.

**Bedside Instruction** is given by the Professor of Medicine to sections not exceeding fifteen students, in the wards of Bellevue Hospital. In these sections each student is assigned in turn to special cases for study in preparation for the general clinic. Ward classes are also conducted by Professor Conner at the New York Hospital, and by Professor Nammack in the Fourth Division of Bellevue Hospital.

**Clinics.**—Medical clinics are held weekly in the amphitheatre of Bellevue Hospital by the Professor of Medicine. At these clinics students read written histories of cases which they have previously studied in the hospital wards. They are required to demonstrate their findings upon the patient, and are questioned before the entire class in regard to diagnosis and treatment. These clinics are also utilized by the Professor of Medicine to exhibit cases of exceptional rarity or difficult diagnosis, and some of them are conducted in coöperation with the Professor of Surgery in order to present to the students the value of conjoint medical and surgical points of view in appropriate cases.

An out-patient clinic is also held weekly by the Professor of Medicine in the Dispensary of the College, at which students are given ample opportunity to examine patients and study minor ailments, as well as all the forms of disease in the ambulatory cases of a large and varied clinical service.

**Hospital Work.**—The service in those wards of Bellevue Hospital which are under the care of the Medical Department of the College has been organized with special reference to the facilitation of teaching. As at present arranged the organization is as follows:

# BELLEVUE HOSPITAL, CORNELL (SECOND MEDICAL) DIVISION.

## HOSPITAL APPOINTEES.

- 1 Director (Professor of Medicine).
- 2 Visiting Physicians { *a.* Professor of Applied Pharmacology.  
                                  *b.* Professor of Neurology.
- 2 Assistant Visiting Physicians { *a.* Professor of Therapeutics.  
  *b.* Professor of Clinical Pathology.
- 4 Adjunct Assistant Visiting Physicians
  - a.* Chief of Clinic Out-patient Department.
  - b.* Instructor in Clinical Pathology.
  - c.* Instructor in Clinical Pathology.
  - d.* Assigned to Pathology.
- 1 Resident Clinical Pathologist.
- 1 Visiting Ophthalmologist.
- 5 House Staff { *a.* House Physician 2 years.  
                          *b.* Senior Physician 2 years.  
                          *c.* Junior Physician 2 years.  
                          *d.* Junior Physician 2 years.  
                          *e.* Physician 1 year.

## UNIVERSITY APPOINTEES.

- 4 Laboratory Collaborators { *a.* Physiological Chemistry.  
                                  *b.* Applied Pharmacology.  
                                  *c.* Experimental Therapeutics.  
                                  *d.* Medical Physics.

"Clinical Clerks" (in sections of 10).

- 1 Clinical Pathologist for "Clinical Clerks."
- 1 Trained Nurse to aid "Clinical Clerks."
- 1 Trained Nurse to aid metabolism research.

## CORNELL UNIVERSITY MEDICAL COLLEGE.

This entire staff is on continuous duty throughout the College year, and during the summer season the service is maintained by a considerable proportion of the Staff.

In addition to the regular hospital appointees and internes, the Medical College supplies for service in Bellevue Hospital a corps of laboratory assistants, research workers, and a special nurse, also on continuous duty, to bring the scientific work of the laboratories of Pharmacology, Experimental Therapeutics, Physiology, and Clinical Pathology into close touch with the wards, each of these laboratories delegating one of their regular staff of instructors for this special hospital service. Thus problems of metabolism, experimental therapeutics, serum therapy, cardiography, bacteriology, etc., arising in connection with the diagnosis and treatment of the ward cases find solution in the College laboratories, each of these laboratory workers being formally assigned to one of the Visiting Staff as a personal research assistant.

The hospital interne staff perform the routine duties of the wards, and are aided in their work by students, who, as "clinical clerks," spend the entire day in the wards of the hospital during the period they are thus assigned for duty; their work is supervised by the Instructors in Medicine, Therapeutics, and Clinical Pathology.

**"Clinical Clerkships."**—Each student is assigned as a "Clinical Clerk" in the wards of the Second Division of Bellevue Hospital for a continuous service of eleven weeks, during which his entire time is devoted to this work. The duties of the "Clinical Clerk" are outlined as follows: He goes to the wards daily at 9 A.M., and, with the exception of the noon recess, remains there throughout the day. Cases are selected and assigned to him for study, each student thus caring for about six cases at a time, so that during his entire period of "clerkship" he should become familiar with at least 80 cases. In the morning hours he records the history of new cases, and notes such changes as may have arisen in those cases previously examined, including the therapeutic effect of treatment. He obtains specimens of excreta, etc., from his cases, and examines them in the clinical laboratory under the direction of an instructor from the Department of Clinical Pathology. During the afternoon hours he is instructed in physical diagnosis and in special methods of examination by junior members of the Visiting Staff; he accompanies the Visiting Physician on his rounds, and from time to time has opportunity to see a great variety of disease and to witness autopsies on such cases as prove fatal. From time to time he visits the museum in the Pathological Department of the Medical School with a demonstrator who exhibits specimens illustrating the lesions of diseases under observation. The work of the "Clinical Clerks" is thus carefully supervised at all times, and as their notes constitute part of the records of the hospital they are made to feel the importance of accuracy and thoroughness.

### CLINICAL PATHOLOGY.

Instruction in Clinical Pathology is given to the Third Year Students, to the Fourth Year students, and to special and post-graduate students who apply for instruction in some particular subject.

## CORNELL UNIVERSITY MEDICAL COLLEGE.

In the third year the class receives instruction from January 1st until March 15th, for three hours two days in the week, and for two hours three days in the week—a total of twelve hours a week and one hundred and twenty hours for the course, which covers the teaching and practical application of methods for the examination of urine, blood and blood-serum, sputum, exudates and transudates, spinal-fluid, gastric contents, feces, and for the bacteriological examination of clinical material. Special demonstrations of unusual specimens, of blood diseases, and of parasites are also arranged for. After the completion of this preliminary training in laboratory methods, the students retain lockers and desk-room and microscopes in the laboratory, and are expected, under the supervision of a demonstrator, to make proper examinations of laboratory material from cases which have been assigned them in the dispensary and hospital clinics. The third year students, while assigned by sections to work in the medical clinic of the dispensary, are also expected to examine, under the direction of a demonstrator of the Department of Clinical Pathology, the laboratory material from dispensary cases.

During the summer months, from June to October, there is offered the opportunity for valuable routine work in the laboratory of Clinical Pathology, and during this time particularly the student will be encouraged to follow out original lines of work for which there is little time during the scholastic year.

In the fourth year, as in the last semester of the third year, the students have assigned to them locker and desk-room and a microscope, and are expected to make proper laboratory examinations for the study of cases assigned to them in the medical clinics, the dispensary and the hospital, and this work is under the supervision of one of the instructors in the laboratory of the Department of Clinical Pathology.

Fourth year students, while assigned by sections to clinical clerkships in the wards of Bellevue Hospital, will make the necessary laboratory examinations in the division laboratory under the supervision of an assistant in Clinical Pathology.

During the fourth year, the students are urged to devote some of their time to the pursuit of investigation in some subject pertaining to clinical pathology.

**Special and Post-Graduate Instruction.**—Instruction in special subjects is given to post-graduate students (with the degree of M.D.), and a thorough course in the usual subjects covered by clinical work is given when desired. The majority of post-graduate students applying for instruction search for particular opportunity for practical work in order to become thoroughly conversant with the details of a special subject, such as the examination of exudates and transudates, or the technique and interpretation of serum-reactions for syphilis (Wassermann's and Noguchi's), and the special courses are designed to meet this want. Each special student is assigned to one of the instructors with whom he works. Special courses are given throughout the year, and information in regard to the details may be obtained by application to the Secretary's office, or to the Department of Clinical Pathology.

# CORNELL UNIVERSITY MEDICAL COLLEGE.

## SUMMARY.

### *Medicine.*

	<i>Second Year.</i>	<i>Third Year.</i>	<i>Fourth Year.</i>
Lectures .....		22 hours.	
Recitations .....	32 hours.	64 hours.	32 hours.
Clinics .....		32 hours.	54 hours.
"Clinical Clerkships"* .....			194 hours.
Sections .....	96 hours.	99 hours.	30 hours.

\*See also Departments of Therapeutics, Neurology and Pediatrics.

### *Clinical Pathology.*

Laboratory, recitations and lectures..... 120 hours.

*Text-books.*—Osler, *Practice of Medicine*; Musser, *Medical Diagnosis*; Tyson, *Physical Diagnosis*; Salinger and Kalteyer, *Medicine*; Emerson's *Clinical Diagnosis*.

## DEPARTMENT OF GENERAL THERAPEUTICS.

FRANK S. MEARA, M.D., *Professor of Therapeutics.*

### *Instructors.*

MALCOLM GOODRIDGE, M.D.,                      MONTGOMERY H. SICARD, M.D.,  
CHARLES E. S. WEBSTER, JR., M.D.

This department, which is essentially one of Applied Therapeutics, co-operating closely with the Departments of Chemistry, Pharmacology and Materia Medica, Physiology, Applied Pharmacology, and Experimental Therapeutics on the one hand and with the Department of Medicine on the other will seek to correlate these different fields of work so far as they relate to the treatment of the individual sick.

It will be the effort of this department to make the courses preëminently practical, and to offer to the student something tangible in his future relation to the patient as medical advisor. To this end the following courses will be offered:

**Didactic Lectures.**—These lectures will deal with the theories and modes of therapy and with the application of therapeutic measures, but always with reference to definite types of disease.

One hour a week throughout the year. Required of all fourth year students. Professor Meara.

**"Clinical Clerkships."**—In conjunction with the Department of Medicine, this department will offer to each student a "clerkship" in the wards of Bellevue Hospital continuously for a period of eleven weeks, half of which time will be devoted especially to problems of medicine, and half to those of therapeutics. Each student will have assigned to him a group of cases for study. He will take the histories, make a record of his own examinations of the cases and the progress of the patients, and will make examinations



of the urine, blood, stomach contents, feces, etc., under the supervision of the resident clinical pathologist assigned to this service. The student will be quizzed daily, and his work visid by an assistant in the department, and will take part in conferences held by the Head of the Department on the subject matter of his assignments. He will follow his cases until their discharge from the ward, or, if the case comes to autopsy, will be present to assist and be given instruction at the section.

The student will follow the outline of the work done by the research assistants and fellows on his cases, and new cases will be assigned to him as the old ones are discharged. At present assistants from the Departments of Medicine, Physiology, and Experimental Therapeutics, and a fellow in Medicine, are assigned to this work.

**Recitations.**—Recitations by an instructor will include those subjects to which this form of instruction is best adapted.

One hour a week for sixteen weeks, February to May. Required of all fourth year students. Doctor Goodridge.

**Section Work in the College Dispensary.**—Students in the fourth year, during their period of "clinical clerkship," will be instructed in the College Dispensary, the material of which affords a different class of cases from those observed in the wards of the hospital. Drs. Sicard and Webster.

**Original Work.**—An opportunity is afforded for those who show special adaptability to carry forward therapeutic work along the lines of original investigation.

#### SUMMARY.

Lectures .....	32 hours.
"Clinical Clerkships"* .....	194 hours.
Recitations .....	16 hours.

\*See also Departments of Medicine, Neurology and Pediatrics.

#### SURGERY.

LEWIS A. STIMSON, M.D., *Professor of Surgery.*

CHARLES L. GIBSON, *Adjunct Professor of Surgery.*

JOHN A. HARTWELL, M.D., *Assistant Professor of Surgery.*

#### *Professors of Clinical Surgery.*

GEORGE WOOLSEY, M.D.,                      PERCIVAL R. BOLTON, M.D.,

FREDERICK GWYER, M.D.,                  WILLIAM B. COLEY, M.D.,

JOHN ROGERS, M.D.

#### *Instructors.*

BENJAMIN TILTON, M.D.,                  WILLIAM A. DOWNES, M.D.,

BURTON J. LEE, M.D.,                      SEWARD ERDMAN, M.D.,

JAMES MORLEY HITZROT, M.D.,          ARTHUR S. ARMSTRONG, M.D.,

J. PRESCOTT GRANT, M.D.,                ARCHIBALD E. ISAACS, M.D.,

JOSEPH P. HOGUET, M.D.

Surgery is taught in the recitation room, at the bedside, in the dispensaries, at hospital clinics, and by lectures.

In the second year the students are required to attend recitations in minor surgery, and are instructed in the College Dispensary in surgical examination and diagnosis.

## CORNELL UNIVERSITY MEDICAL COLLEGE.

In the **third year** recitations are continued upon regional surgery; the class is instructed in sections in New York Hospital in history taking and methods of surgical examination and diagnosis, three hours a week for the first term; and one hour a week in minor surgery in the College Dispensary during the second term.

Formal clinics are held in Bellevue Hospital; thirty-three lectures are given by the Professors of Surgery, and a college clinic for diagnosis is held once a week throughout the term, at which the students are required personally to examine and report upon the cases.

In the second and third terms of this year students are instructed in sections in St. Luke's Hospital, being assigned to this work for 21 successive weeks, one afternoon per week. Practical instruction in general surgery is given under the direction of the Adjunct Professor of Surgery.

**Operative Surgery** is taught to small sections of the class in the third year. The course consists of recitations, work upon the cadaver, and the application of bandages and plaster dressings. As the material is abundant, each member of the class will perform the principal surgical operations.

In connection with the Animal Hospital the students will have opportunities directly to assist in operations. These operations are not experimental or vivisectional, but solely for the relief of existing disease.

**Special instruction** in operative surgery is offered to graduates in medicine. A circular giving particulars may be had on application to the Secretary.

In the **fourth year** the students in the first term receive clinical instruction in small groups in several hospitals and dispensaries upon general surgery and the special branches—eye, ear, nose and throat, genito-urinary diseases, gynæcology, dermatology and orthopædics—may attend the lectures and clinics, and will have a review quiz in preparation for examination.

The members of the sections are trained in the examination of patients, the dressing of wounds and fractures, the administration of ether, and assisting at operations.

The opportunities for instruction in the special branches are exceptionally ample. There are several clinical teachers in each subject, each with hospital and dispensary services. The student will be enabled directly to examine and study cases, and will have a certain choice as to the time given to each branch.

Lectures on special topics are given in a special lecture course in the first term, to which students of all the classes are admitted, but the more intensive instruction of the fourth year in the Department of Surgery is given in the wards of Bellevue Hospital during the second term.



**Hospital Work.**—The Second Surgical Division of Bellevue Hospital is under the care of the Cornell University Medical College. Its Staff has been organized as follows:

**BELLEVUE HOSPITAL, CORNELL (SECOND SURGICAL)  
DIVISION.**

LEWIS A. STIMSON, M.D., *Professor of Surgery, Consulting Surgeon.*

JOHN A. HARTWELL, M.D., *Assistant Professor of Surgery, Visiting Surgeon.*

GEORGE WOOLSEY, M.D., *Professor of Clinical Surgery, Visiting Surgeon.*

JOHN ROGERS, M.D., *Professor of Clinical Surgery, Visiting Surgeon.*

JAMES M. HITZROT, M.D., *Instructor in Surgery, Assistant Visiting Surgeon.*

BURTON J. LEE, M.D., *Instructor in Surgery, Assistant Visiting Surgeon.*

SEWARD ERDMAN, M.D., *Instructor in Surgery, Adjunct Assistant Visiting Surgeon.*

JOSEPH P. HOGUET, M.D., *Instructor in Surgery, Adjunct Assistant Visiting Surgeon.*

—————, *Externe Clinical Pathologist.*

The Division consists of 90 surgical beds in addition to those devoted to surgical pediatrics, genito-urinary diseases and gynecology, the hospital instruction in which is outlined under their respective departments. The service is so arranged that an Assistant Professor or a Clinical Professor is on continuous duty throughout the College year.

In addition to the regular hospital appointees the College supplies a special nurse to assist in the cases under investigation and in the work of the surgical clerks. The hospital interne staff perform the routine duties of the wards, and are assisted in history taking, dressing, etc., by the surgical clerks, who spend their entire day in the wards during their period of clerkship, these privileges being extended exclusively to the students of the Cornell University Medical College.

Research workers are assigned from the laboratory of Clinical Pathology and Surgical Pathology of the College so that the more intricate problems of nutrition, serum therapy, bacteriology, etc., arising in connection with the diagnosis and treatment of patients, may find ultimate solution in the College laboratories, thus supplementing the facilities afforded by the hospital itself.

**Surgical "Clerkships."**—The intensive ward teaching is done under this head during a period of six weeks immediately following the Christmas recess. The students are assigned in two divisions under the direction respectively of an Assistant Professor and a Clinical Professor of Surgery aided by the corps of instruction.

Each student devotes his entire day to the work continuously for six weeks. He is assigned to the study of a certain number of patients, and is enabled to follow the complete course of the disease from the admission of the





A PORTION OF THE STUDENTS' LABORATORY  
DEPARTMENT OF BACTERIOLOGY



STUDENTS' LABORATORY, DEPARTMENT OF PATHOLOGY

## CORNELL UNIVERSITY MEDICAL COLLEGE

patient to his discharge. In the event of death he is present at the autopsy should one be performed.

In this way the student has an opportunity to follow to a conclusion a large number of surgical affections, and he is instructed in the proper methods of surgical history taking, surgical physical examinations, surgical dressings, operative surgery as seen at the operating table. He is also instructed in the laboratory study, including bacteriology, of the blood, urine, feces, exudates, and transudates. This laboratory work is done under the direction of the staff in the laboratories connected with the wards and in the College laboratories, and is under the immediate charge of the Clinical Pathologist to the Division. As a supplement to the above teaching, each student spends some time in the gross pathological museum, where he is instructed in a series of lesions illustrating the cases under his observation.

By this method of instruction, each student comes into intimate contact with a large number of surgical patients, and is required to make a complete study of each one from every standpoint. He has constantly at his service two or more of the teaching staff to guide him in his work, and impress on him the proper methods of observation and study.

### SUMMARY.

	<i>Second Year.</i>	<i>Third Year.</i>	<i>Fourth Year.</i>
Lectures .....		33 hours.	44 hours.
Recitations .....	30 hours.	32 hours.	33 hours.
Clinics .....		54 hours.	54 hours.
Sections .....	33 hours.	65 hours.	30 hours.
Operative Surgery .....		24 hours.	
Clinical Clerkships .....			175 hours.

*Text-book.*—*American Text-book*; Rose and Carless, *Surgery*.

*Collateral Reading.*—Parks, *Surgery*; Lexer-Bevan, *General Surgery*; Stimson, *Fractures and Dislocations*; Binnie, *Operative Surgery*, 5th Edition.

## OBSTETRICS.

J. CLIFTON EDGAR, M.D., *Professor of Obstetrics and Clinical Midwifery.*

### *Instructors.*

GEORGE D. HAMLEN, M.D.,                      HAROLD C. BAILEY, M.D.,  
ALBERTUS A. MOORE, M.D.

Instruction in obstetrics will be given during the second and third years by  
1. Recitations. 2. Lectures. 3. Obstetric clinics and conferences. 4. Attendance upon cases of confinement. 5. Manikin practice and section work. 6. Obstetric histology, pathology, and bacteriology.

1. **Recitations** from a standard text-book will be held by an instructor in obstetrics during the second year.

2. **The Lectures** comprise a systematic course running through part of the third year, upon the physiology and pathology of obstetrics.

These lectures are theoretical to a limited extent only, being mainly dem-

onstrative and illustrative in character. To this end ample blackboard space is used, as well as a collection of pelves, entire, normal and deformed, mesial sections of the same, and in addition a supply of diagrams, charts, selected plaster, composition, and metal models, wet and dry preparations, and instruments.

**3. Obstetric Clinics and Conferences.**—A weekly obstetric clinic is held by Professor Edgar for the third year class at the Manhattan Maternity and Dispensary, 327 East 60th Street. At this clinic abnormal cases of pregnancy, labor, and the puerperium are demonstrated, and the major and minor obstetric operations performed.

In addition, infant feeding and the care of mother and child during the lying-in period and early infancy are taught. During both the third and fourth year, members of the class will be called upon to examine patients and discuss etiology, diagnosis, prognosis, and treatment.

**4. Attendance upon Cases of Confinement.**—Each candidate for the degree of M.D. is required to present satisfactory evidence to the effect that he has attended a definite number of cases of confinement. To fulfil this requirement students may register as internes in the Manhattan Maternity and Dispensary, 327 East 60th Street. Students are lodged in the above hospital for periods of two weeks or more, and attend confinement cases both in the hospital building and in the tenement house districts of the upper east side of the city.

During the student's attendance upon his practical maternity course he may be excused from the exercises of the College during the fourth college year, otherwise he shall take his practical obstetric course during vacation time (see page 30). Further information concerning the practical obstetric work may be obtained by applying at the secretary's office.

**5. Manikin Practice and Section Work.**—Manikin practice is given to sections of the class during the third year, and consists of work by individual students upon the manikins, under the supervision and criticism of an instructor.

The mechanical phenomena of labor; modes of delivery; abnormal presentations and positions, with methods of delivery of each; version; application of the forceps, and other manipulations, will be demonstrated by the instructor and performed by the student.

The sections will also be instructed at the bedside at Bellevue Hospital in the management of pregnant and parturient women, the care of the newborn child, abdominal palpation, and pelvic mensuration.

**6. Obstetric Histology, Pathology, and Bacteriology.**—Laboratory instruction is given by the Professor of Pathology and the Assistant Professor of Histology upon the histology of the vulva, vagina, uterus, ligaments, Fallopian tubes, and ovaries in the pregnant and non-pregnant conditions, and upon the histology and pathology of the decidua, chorion, placenta, and umbilical cord.



## CORNELL UNIVERSITY MEDICAL COLLEGE.

### SUMMARY.

	<i>Second Year.</i>	<i>Third Year.</i>
Lectures .....		21 hours.
Recitations .....	32 hours.	
Clinics .....		64 hours.
Sections .....		44 hours.

*Text-book.*—Edgar, *Practice of Obstetrics.*

### DEPARTMENT OF PATHOLOGY.

**General Pathology, Pathological Anatomy, Experimental Pathology,  
Chemical Pathology, Bacteriology.**

JAMES EWING, M.D., *Professor of Pathology.*

BERTRAM H. BUXTON, M.D., *Professor of Experimental Pathology.*

WILLIAM J. ELSER, M.D., *Professor of Bacteriology.*

OTTO H. SCHULTZE, M.D., *Assistant Professor of Pathological Anatomy and  
Medico-Legal Pathology.*

JOHN C. TORREY, Ph.D., *Assistant Professor of Experimental Pathology and  
Lecturer in Hygiene.*

MAX G. SCHLAPP, M.D., *Assistant Professor of Neuro-pathology.*

CHARLES NORRIS, M.D., *Demonstrator in Pathological Anatomy.*

LAWRENCE W. FAMULENER, M.D., *Instructor in Pathology.*

FRANK M. HUNTOON, M.D., *Instructor in Bacteriology.*

E. ROSS FAULKNER, M.D., *Instructor in Surgical Pathology.*

CYRUS W. FIELD, M.D., *Instructor in Pathological Anatomy.*

ARTHUR F. COCA, M.D., *Instructor in Experimental Pathology.*

JAMES B. GERE, M.D., *Assistant in Neuro-pathology.*

ELISE S. L'ESPÉRANCE, M.D., *Assistant in Pathology and Librarian.*

ERNEST E. GORSLIN, Ph.D., *Assistant in Chemical Pathology.*

ALFRED RAHE, *Assistant in Experimental Pathology.*

### GENERAL PATHOLOGY.

The course of instruction in Pathology begins in the third term of the second year with lectures on the theory and classification of inflammations, which are designed to acquaint the student with the main facts in this field, to prepare him for studies in medicine and surgery, and to establish a uniform system of nomenclature to be used in this and other departments. These are followed by systematic laboratory instruction consisting of microscopical demonstrations and lectures on the pathology of Degeneration, Inflammation, Infectious Granulomata, and Tumors. At the same time demonstrations of gross pathological specimens are conducted illustrating these and other diseases, while the work in Bacteriology occupies the afternoon hours of this session.

In the first term of the third year the Special Pathology of the organs is taken up, including Dermato-pathology and Protozoan Diseases, and demonstrations in Pathological Anatomy are continued. The second term of the



## CORNELL UNIVERSITY MEDICAL COLLEGE.

third year is occupied with courses in the Pathology of Surgical Diseases, Gynæcological Diseases and Diseases of the Nervous System.

In the fourth year the student performs autopsies, and attends Lectures in Hygiene, Immunity, and other selected topics.

### SCHEME OF INSTRUCTION IN PATHOLOGY.

**I. General Pathology.**—Lectures, museum and microscopical demonstrations, 99 hours. Required in the third term of second year.

(a) Degeneration, Inflammation, Infectious Granulomata, 66 hours, March, April.

(b) Tumors, 33 hours, April, May.

**II. Special Pathology.**—Lectures, museum and microscopical demonstrations, 158 hours. Required in first and second terms of third year.

(a) General Diseases. October, November.

(b) Dermato-pathology. December.

(c) Protozoan Diseases. December.

(d) Surgical Pathology. January.

(e) Gynæcological Pathology. February.

(f) Neuro-pathology. February, March.

Profs. Ewing and Schlapp, and Drs. Famulener, Faulkner and Gere.

**III. Pathological Anatomy.**—On the days alternating with the studies in General and Special Pathology demonstrations of gross pathological specimens are held on the material collected from autopsies. With the viscera of each case is presented an epitome of the clinical history, and when necessary frozen sections of the organs are made, and the relation of the gross and microscopical changes to the clinical symptoms is explained. The student here sees the organs of many of the fatal cases studied in hospital wards. Gross pathological diagnosis is taught as a separate branch of this subject.

Lectures and demonstrations, 108 hours. Required in the third term of second year, and in first and second terms of third year. Assistant Professor Schultze and Dr. Field.

**IV. Medico-legal Pathology.**—The medico-legal relations of Pathology are extensively illustrated in the material collected at the Morgue and various hospitals, and special attention is devoted to this subject in the third and fourth years. Professor Schultze.

**V. Autopsy Technics.**—In the fourth year the student performs autopsies at the Morgue in two-hour periods twice a week during five weeks of the first term, and once a week for ten weeks during the second term. 40 hours. Professor Schultze and Drs. Norris and Field.

**VI. Lectures in Special Pathology.**—Lectures on special topics in Pathology are given during the third and fourth years. The lectures cover such subjects as immunity, the etiology of tumors, cerebral hemorrhage, and the pathology of diseases of nutrition. At suitable times the topics that are being pursued in the research laboratories and the objects of these researches may be presented to the student in special lectures. Profs. Ewing, Elser, Schultze, Torrey, and Schlapp.

## CORNELL UNIVERSITY MEDICAL COLLEGE.

**VII. Recitations.**—One recitation every week is required of each student throughout the course in General and Special Pathology. These exercises cover the work of the preceding week, and are of the nature of conferences for the fuller discussion of the topics considered.

**VIII. Examinations.**—Written and practical examinations are held at the end of each year. The standing of the student is determined from the theoretical and practical work, the recitations, and the examination.

### EXPERIMENTAL PATHOLOGY.

In this department are associated a number of men whose time is devoted to the study of problems in medical science. Abundant space and modern facilities are provided in the Loomis Laboratory, in which are laboratories equipped for Experimental Pathology, Bacteriology and Hygiene, Serum Pathology, Chemical Pathology, and Micro-photography. Instruction has been given to a number of assistants and volunteer workers who desired to enter the field of research in these subjects, and is available to properly qualified applicants.

The members of this staff include: Profs. Buxton, Torrey, Drs. Coca, Gorslin, Mr. Rahe, and others.

Since 1904 the work of the Huntington Fund for Cancer Research has been located in the Loomis Laboratory.

The organized work in connection with this subject has been distributed among the Departments of Pathology, Prof. Ewing; Experimental Pathology, Prof. Buxton; Chemistry, Prof. Benedict; Anatomy, Prof. Stockard; Experimental Therapeutics, Prof. Beebe. Clinical studies are being conducted at the General Memorial Hospital under Prof. Coley; at Bellevue Hospital under Prof. Hartwell; at the New York Hospital in connection with the Department of Pathology under Prof. Elser and Dr. Michelofsky, and in Comparative Medicine with Dr. T. B. Sherwood, D.V.S.

### BACTERIOLOGY.

In the course in bacteriology the student is first made familiar with the methods of disinfection, and is required to prepare the ordinary culture media. The work then proceeds to the methods of staining and examining bacteria, their artificial cultivation and the study of biological characters, the methods employed in the separation of species, the general relation of pathogenic bacteria to disease, and concludes with the biological analysis of air, water, soil, and milk. Cultures are made from the viscera of cases of the various infectious diseases, and the student is required to cultivate and identify the important pathogenic micro-organisms. The work is supplemented when necessary by the use of pure cultures and by the exhibition of anaërobic cultures. Each student receives practical instruction in the artificial immunization of animals and in the demonstration of the reactions of immunity.

Laboratory work and lectures. 110 hours. Required in the second year. Prof. Elser and Dr. Huntton.

# CORNELL UNIVERSITY MEDICAL COLLEGE.

## SUMMARY.

	<i>Second Year.</i>	<i>Third Year.</i>	<i>Fourth Year.</i>
General Pathology .....	99 hours.		
Special Pathology .....		148 hours.	
Pathological Anatomy .....	66 hours.	42 hours.	
Autopsy Technics .....			40 hours.
Recitations .....		10 hours.	
Bacteriology .....	110 hours.		

## DEPARTMENT OF EXPERIMENTAL THERAPEUTICS.

S. P. BEEBE, M.D., *Professor of Experimental Therapeutics.*

RICHARD WEIL, M.D., *Assistant Professor of Experimental Therapeutics.*

ROBERT A. COOKE, M.D., *Assistant in Experimental Therapeutics.*

ELIZABETH COOKE, Ph.D., *Assistant in Experimental Therapeutics.*

ELEANOR VAN N. VAN ALSTYNE, B.S., *Assistant in Experimental Therapeutics.*

B. FELDSTEIN, M.D., *Assistant in Experimental Therapeutics.*

WILLIAM DUNN, *Assistant in Experimental Therapeutics.*

The Department of Experimental Therapeutics has been established in order to facilitate the application of the medical sciences to the problems of practical therapeutics and to coördinate the work of the other scientific and clinical departments in this field. The Loomis Laboratory has been remodeled in order to provide proper accommodations for this work. New laboratories have been equipped with modern facilities for work in physiology, pathology, serum pathology and physiological chemistry, with ample space for the care of the animals and a fully equipped operating room.

Opportunities for research will be afforded to volunteer workers who have had the requisite training, and who can give sufficient time. The location of the laboratory opposite the new Bellevue Hospital assures an abundance of clinical material.

The establishment of these laboratories will make it possible to extend the work of the Huntington Fund for Cancer Research in the direction of Experimental Therapeutics.

## SPECIAL DEPARTMENTS OF MEDICINE AND SURGERY.

### NEUROLOGY.

CHARLES L. DANA, M.D., *Professor of Clinical Medicine, Department of Neurology.*

JOSEPH FRAENKEL, M.D., *Assistant Professor of Clinical Medicine, Department of Neurology.*

#### *Instructors.*

R. FOSTER KENNEDY, M.D.,

ALEXANDER S. LEVERTY, M.D.

The regular work consists of a preliminary series of lectures by Professor Dana, in which the general outline of the work for the year is given, with demonstrations of the general anatomy, general symptomatology, and methods of examination of the nervous system. During the rest of the term clinical lectures on nervous diseases are held weekly in the amphitheatre of Bellevue Hospital or at the college. Section work is given weekly to classes in the wards of Bellevue Hospital, and in the dispensary of the college. In this dispensary, section work instruction is given in history taking in the examination of patients, and in electro-therapeutics.

It is considered of the greatest importance that the student of nervous diseases be thoroughly grounded in the anatomy and physiology of the nervous system, therefore courses in gross and microscopical anatomy of the nervous system are provided in the histological laboratory and, similarly, a course in neuro-pathology is given in the pathological laboratory.

Special instruction in electro-therapeutics is given by one of the instructors, and special hours are given to psycho-therapy at the Dispensary. Thus the course of instruction aims to provide the student before he graduates with instruction in the microscopical anatomy of the nervous system, in its physiology and pathology, and also with practical clinical instruction in the amphitheatre, at the bedside, and in the dispensary.

In the first term of the fourth year students are instructed in the wards and Out-Patient Department of the Neurological Institute of New York in sections one afternoon weekly for five weeks. The extensive neurological service of this institution provides facilities for instruction in the recognition and treatment of a large variety of nervous diseases, students being given ample opportunity for the examination and study of illustrative cases.

**Hospital Work.**—For a period of two weeks in the second term of the fourth year students are assigned as "clinical clerks" continuously each afternoon to the wards of Bellevue Hospital, where under the direction of the Professor of Neurology each student is assigned cases for study, and is required to compile complete histories, make all examinations, become thoroughly familiar with the case in its every aspect, and discuss in conference

the diseases thus studied. In addition to the opportunity for a complete study of neurological cases thus afforded, the work of the "clinical clerk" is extended by frequent visits with the Professor or Instructor in charge to the psychopathic and alcoholic wards of the hospital, where the neurological phases of these cases are fully discussed in conference and the student given an opportunity for a full and complete study of the case. The conduct of the ward work is under the direction of the Professor of Neurology, who is a Visiting Physician to Bellevue Hospital (see page 42), and who is assisted by the Assistant Visiting Physicians of the Second (Cornell) Medical Division and by the special laboratory workers and nurses assigned to the wards, so that ample opportunity is offered for the complete study of every phase of nervous disease as exhibited in the wards of a large hospital. In this way the student may obtain a complete and intimate knowledge of the important forms of nervous disease.

SUMMARY.

	<i>Third Year.</i>	<i>Fourth Year.</i>
Lectures .....	5 hours.	
Clinics .....	27 hours.	32 hours.
Sections .....		15 hours.
"Clinical Clerkships" .....		38 hours.

*Text-book.*—Dana, *Diseases of the Nervous System and Psychiatry*.

*Collateral Reading.*—Gowers, *Diseases of the Brain and Spinal Cord*; works on nervous diseases by Dercum, Mills, Sachs, Starr, Church and Peterson; Oppenheim, *Nervous System*; Obersteiner, *Anatomy of the Nervous System*.

PSYCHO-PATHOLOGY.

AUGUST HOCH, M.D., *Professor of Clinical Medicine, Department of Psychopathology.*

*Clinical Instructors.*

GEORGE H. KIRBY, M.D.,

C. MACFIE CAMPBELL, M.D.

The course will cover the principal data and methods of modern psychopathology, and the diagnosis and treatment of mental disorders, with constant reference to the earliest manifestations.

It consists of clinical demonstrations and practical exercises, as well as didactic lectures.

Students are enabled to spend an entire morning in the wards of Manhattan State Hospital on Ward's Island, which is readily reached by ferry from the foot of East 116th Street. By thus devoting a continuous period of three hours weekly for eleven weeks to work with cases, exceptional opportunity is afforded for training in methods of examination and observation, and for instruction in the principles of disorders which are of importance not alone for the marked psychoses, but for the milder mental abnormalities which often form a part of other diseases.

SUMMARY.

	<i>Fourth Year.</i>
Clinical demonstrations and practical exercises.....	33 hours.
General lecture .....	11 hours.

Reference book.—Kraepelin, *Text-book on Clinical Psychiatry*, translated and abridged by Diefendorf.



PEDIATRICS.

JOSEPH E. WINTERS, M.D., *Professor of Clinical Medicine, Department of Pediatrics.*

*Clinical Instructors.*

WILLIAM SHANNON, M.D.,                      JOSEPH C. ROPER, M.D.  
WILLIAM D. TYRRELL, M.D.

This department will embrace clinical instruction and section teaching in all the important diseases of infancy and childhood.

There will be one clinical lecture each week in the college building, and clinical lectures in the Willard Parker Hospital on scarlet fever and diphtheria.

In connection with the dispensary of the Children's Department in the college building there is an amphitheatre for section teaching, and isolation rooms for contagious diseases, so that students have ample opportunity for the personal study of disease.

Two hours each week will be devoted to section teaching in the dispensary to the students of the fourth year.

Students will be required to examine sick children and discuss the diagnosis and treatment of patients assigned to them.

Special attention is given to the hygiene and feeding of infants; the digestive disorders of infants; the dietetics of childhood and the food disorders of infancy and childhood; the anatomical and physiological peculiarities of infancy and childhood; and the influence these peculiarities have on the manifestations of disease in children.

One of the distinguishing features of this department will be the instruction of each student in the art of diagnosis by the professor in charge.

There will be practical bedside illustrations of the management, care, and therapeutics of all the acute diseases of infancy and childhood.

In the Department of Clinical Pathology every examination pertaining to this subject will be elaborately taught; microscopical examinations will be made of secretions and excretions, of lesions of the mouth and throat, and of sections of anatomical lesions of the important diseases of childhood.

**Hospital Work.**—Students are assigned for a continuous service as clinical clerks, daily 1-5 P.M., for a period of two weeks, in the wards of the New York Hospital. Each student will be assigned a certain number of cases, and will be required to take the history, make physical and pathological examinations, and observe and coöperate in the treatment of the patient. Such patients are followed from their admission to the hospital to their discharge, or to the completion of the clerkship.

Conferences with the instructor are held each afternoon, at which the student must demonstrate the cases of which he is required to make a complete study, and to discuss all phases of the disease. This work has been arranged by the Professor of Pediatrics, and is done under the immediate direction of a clinical instructor.



# CORNELL UNIVERSITY MEDICAL COLLEGE

## SUMMARY.

	Third Year.	Fourth Year.
Clinics .....	32 hours.	32 hours.
Sections .....		18 hours.
Clinical Clerkships .....		38 hours.

*Text-book.*—Still, *Common Disorders and Diseases of Childhood*; Holt, *Diseases of Infancy and Childhood*, fifth edition, 1909; Rotch, *Pediatrics*.

*Collateral Reading.*—Starr, *American Text-book on the Diseases of Children*; Welch and Schamberg, *Acute Contagious Diseases*.

## GYNÆCOLOGY.

WILLIAM M. POLK, M.D., *Professor of Clinical Surgery, Department of Gynæcology.*  
Instructors.

CHARLES C. BARROWS, M.D.,

GEORGE D. HAMLEN, M.D.,

GEORGE G. WARD, JR., M.D.,

LEROY BROWN, M.D.

Instruction in gynæcology is given by recitations, lectures, ward studies and demonstrations, clinics, and laboratory demonstrations.

**Recitations** are planned to cover the entire subject, and are held one hour a week during the third year of the course. In order that the instruction throughout the department may be as nearly in unison as possible a synopsis of the subject-matter of each lesson is prepared by the instructor and amended and revised by the head of the department. This is presented to the student for comparison with his text-book, to which it is an addendum. This method insures the coöperation of the head of the department in the groundwork of his subject, and enables him to keep in touch with each student until his graduation.

**Ward Demonstrations** are given to sections of the fourth-year class once a week throughout the first term. This instruction includes the examination of patients by the students, who are thereby drilled in the methods of physical diagnosis as applied to the pelvis. When necessary the patients are anesthetized.

The routine treatment appropriate to the various conditions found is demonstrated, the students assisting when possible. In this way, not only is familiarity acquired with normal conditions within the pelvis and the various departures from this state induced by disease, but opportunity is afforded to see and put in actual practice measures of relief, and to watch the subsequent course and treatment of these cases.

Operations are performed three days every week at which the several sections are enabled to study the detail of every operation peculiar to this department.

**A General Clinic** is held once a week during the first term, at which students selected in rotation are required to examine the patient, make a diagnosis, and suggest treatment. The examinations are begun in the ward and continued when the patient is anesthetized. The students are questioned before the class upon all these topics, as they relate to the case in hand, so as to determine the correctness of their conclusions. Should operation be called for, it is then performed.

**Laboratory Demonstrations** of secretions, discharges, and specimens obtained from patients who come under observation during this course are made to sections of the third-year class as a part of the course in clinical pathology.

**Hospital Work.**—During the second term of the fourth year students are assigned as “clinical clerks” to the surgical wards of Bellevue Hospital (see page 48), and during this period the wards of the gynæcological service of the Second (Cornell) Division are utilized for purposes of instruction. During the last four weeks of the term students are regularly assigned to cases which they follow so far as the nature of the work will permit under the supervision of the corps of instruction. Two entire mornings for a period of four weeks are devoted to this work, in addition to the opportunity offered during the period of six weeks for the complete study of gynæcological cases in connection with the clinical clerkships. The instruction thus given offers an opportunity for the practical application of the subject as previously taught by lectures, recitations, clinics and demonstrations. The didactic instruction of the previous year is thus completed and amplified by the opportunity for direct observation on bedside cases in the hospital wards.

#### SUMMARY.

	<i>Third Year.</i>	<i>Fourth Year.</i>
Recitations .....	32 hours.	
Clinics .....		22 hours.
Hospital Work .....		40 hours.

*Text-books.*—Penrose, *Gynæcology*; Findley, *Diagnosis*.

*Collateral Reading.*—Dudley, *Gynæcology*; Garrigues, *Diseases of Women*.

### DISEASES OF THE GENITO-URINARY ORGANS.

EDWARD L. KEYES, JR., M.D., *Professor of Clinical Surgery, Department of Diseases of the Genito-urinary System.*

#### *Clinical Instructors.*

FRANCIS C. EDGERTON, M.D.,

DAVID WALLACE MACKENZIE, M.D.

The courses in this department are required of students during the third and fourth year. They are designed to give instruction in diagnosis and treatment of the surgical diseases of the male genital and urinary organs and syphilis.

**Clinic.**—A clinic will be given in the amphitheatre of Bellevue Hospital once each week after the first of January by Professor Keyes. At this clinic the principal operations upon the male urinary and genital organs will be performed before the class, and special attention will be given to the subject of diagnosis and post-operative management of cases. Attendance upon these clinics is required of students during the second and third terms of the third year.

**Lectures.**—Third year. A course of five lectures will be given to the third year class during the third term of the college session.

**Lectures.**—Fourth year. A weekly lecture for five weeks to be given by Professor Keyes during the first term, introductory to the clinical course.

## CORNELL UNIVERSITY MEDICAL COLLEGE.

**Section Teaching.**—Third year. The third year class will be divided into sections of small size, and instruction will be given in the wards of Bellevue Hospital and in the College Dispensary. This course begins on January 1st.

**Hospital Work.**—Students assigned to surgical clerkships in the wards of Bellevue Hospital (page 48) are also assigned to the study of cases in the wards devoted to genito-urinary diseases, and are required to follow these cases to a conclusion just as is done in the wards devoted to general surgery. Thus, during a service of five weeks as surgical clerks, opportunity is afforded for the complete study of a considerable number of cases in the genito-urinary wards, and the student is required to become thoroughly familiar with these diseases.

### SUMMARY.

	<i>Third Year.</i>	<i>Fourth Year.</i>
Clinics .....	21 hours.	
Sections .....	32 hours.	
Lectures .....	5 hours.	5 hours.
Clinical Clerkships .....		(see page 48)

*Text-books.*—Keyes.

*Collateral Reading.*—Watson and Cunningham, Morton.

## DERMATOLOGY.

GEORGE T. ELLIOT, M.D., *Professor of Clinical Surgery, Department of Dermatology.*

JAMES C. JOHNSTON, M.D., *Assistant Professor of Clinical Surgery, Department of Dermatology.*

*Clinical Instructor.*

HANS J. SCHWARTZ, M.D.

Instruction in Dermatology will be given by the Clinical Professor and his assistants. No teaching will be given didactically, but the cutaneous diseases will be demonstrated on the living subject. Abundance of material for such instruction is obtainable, and the student can thoroughly familiarize himself with the more common as well as with the rarer diseases of the skin by actual personal contact and observation. Attention is particularly paid to the diagnosis and the etiology of skin diseases, but their therapeutics also receive due consideration.

### SUMMARY.

	<i>Fourth Year.</i>
Sections .....	25 hours.

*Text-books.*—Stelwagon, *Diseases of the Skin*; Hyde, *Dermatology*.

## LARYNGOLOGY AND RHINOLOGY.

JAMES E. NEWCOMB, M.D., *Professor of Clinical Surgery, Department of Laryngology and Rhinology.*

*Clinical Instructor.*

FRANKLIN T. BURKE, M.D.

Instruction in Laryngology and Rhinology is given by clinical exercises at the college by the professor of the department. The subjects then considered

## CORNELL UNIVERSITY MEDICAL COLLEGE.

are demonstrated to the fourth year students by the instructor and by the assistants. The class is divided into sections, and each member is expected to examine patients and perform manipulations. The clinics are fully illustrated by plates and models, and, as far as possible, by clinical material.

### SUMMARY.

*Fourth Year.*

Sections ..... 15 hours.

*Text-book.*—Knight, *Diseases of the Nose and Throat.*

*Collateral Reading.*—Grünwald, *Atlas of Diseases of the Larynx*; Grünwald, *Atlas of Diseases of the Mouth, Pharynx, and Nose.*

## OPHTHALMOLOGY.

ROBERT G. REESE, M.D., *Professor of Clinical Surgery, Department of Ophthalmology.*

*Clinical Instructors.*

JOHN M. WHEELER, M.D.,

GEORGE W. VANDEGRIFT, M.D.

Instruction in Ophthalmology consists of section teaching in the first term of the fourth year, two hours a week for eleven weeks, at the College Dispensary. The sections are of the nature of clinical conferences, and consider the subjects of the external or superficial diseases of the eye, the anomalies of the ocular muscles, and the deep lesions of the eye which are not susceptible of clinical demonstration. The sectional teaching at the college dispensary is devoted partly to clinical ophthalmology and the use of the ophthalmoscope, and partly to instruction in the errors of refraction and the rudiments of the fitting of lenses. Thus the entire field of ophthalmology is covered.

### SUMMARY.

*Fourth Year.*

Sections ..... 22 hours.

*Text-book.*—Weeks.

*Collateral Reading.*—Jackson, Nettleship, May, Fuchs.

## OTOLOGY.

FREDERICK WHITING, M.D., *Professor of Clinical Surgery, Department of Otology.*

*Clinical Instructor.*

GEORGE B. MCAULIFFE, M.D.

For clinical instruction in Otology, the fourth year class is divided into sections. Each student receives practical instruction in the College Dispensary from Professor Whiting and his assistants in the examination of patients, the use of the otoscope, and the various methods of testing the

## CORNELL UNIVERSITY MEDICAL COLLEGE.

hearing. The student is permitted to examine patients and, after a probationary period, to prescribe for them and thus gradually assume the duties of a clinical assistant. The students also have an opportunity of witnessing the more important operations in aural surgery, including intracranial complications, at the New York Eye and Ear Infirmary.

### SUMMARY.

*Fourth Year.*

Sections ..... 15 hours.

*Text-book.*—Bacon, *On the Ear*.

*Collateral Reading.*—Poltitzer, *Diseases of the Ear*; Macewen, *Pyogenic Infective Diseases of the Brain and Spinal Cord*; Whiting, *The Modern Mastoid Operation*.

### ORTHOPÆDIC SURGERY.

FRED H. ALBEE, M.D., *Assistant Professor of Clinical Surgery, Department of Orthopædic Surgery.*

*Clinical Instructor.*

ROBERT E. SOULE, M.D.

The course of study in the Orthopædic Department includes a weekly conference with detailed demonstrations in sectional work twice a week during the first term, and hospital instruction for a total of twenty-four hours in the second term of the fourth year.

During the course especial attention is given to the early recognition of the deforming diseases of childhood, also to the symptomatology, pathology, and differential diagnosis of chronic and progressive deformities, including the mechanical and operative treatment, and the facilities of radiology are freely used as a means for accurate diagnosis.

In the section and laboratory work the course includes practical illustrations of the methods of diagnosis and treatment, and the student is required to assist in the management of selected cases, to familiarize himself with the various methods of treatment, to construct the simpler forms of apparatus, to secure a practical knowledge of the details of construction of the more complicated instruments, and to familiarize himself with the pathological conditions existing in the deformities of childhood. Various forms of corrective and retentive apparatus are exhibited, and models of conventional forms are placed at the disposal of the student.

The Hospital sections continue over a period of four weeks, and include instruction in the diagnosis and treatment of Orthopædic conditions, both by operative procedure and by mechanical apparatus. The application and use of plaster of Paris and other dressings are demonstrated in the wards of the hospital, and the student has opportunity to observe the after-treatment of operative cases. The indications for operative and mechanical treatment are discussed, and the operative technique applicable to orthopædic procedures is demonstrated.



## CORNELL UNIVERSITY MEDICAL COLLEGE.

### SUMMARY.

*Fourth Year.*

Sections .....	10 hours.
Ward Work .....	24 hours.

*Text-book.*—Bradford and Lovett.

### RADIOLOGY.

LEWIS G. COLE, M.D., *Instructor.*

JOSEPHINE B. NEAL, M.D., *Assistant.*

This department has recently been reorganized and equipped with the most modern apparatus.

Radiology, and particularly radiographic diagnosis has developed to such an extent that it is a very important factor in medical and surgical diagnosis. No attempt is made to teach the technique in the time allotted. The work in this department will, therefore, include the general principles of radiology with special attention to the scope of radiographic diagnosis and the interpretation of the X-Ray plates. Radiography, stereo-radiography, tele-radiography, and cinemato-radiography will be demonstrated to students of the fourth year class.

### HYGIENE.

JOHN C. TORREY, Ph.D., *Assistant Professor.*

Instruction in many of the branches of hygiene and preventive medicine is a prominent feature in some of the courses pursued in the several departments of Chemistry, Bacteriology, Pathology, and Medicine.

The topics thus covered include the chemical and bacterial analysis of air, water, milk; the preservation and adulteration of foods; and the general diagnosis, control, and prevention of infectious diseases.

The more distinctive branches of hygiene and preventive medicine are presented in a course of lectures to third and fourth year students. Some of the topics thus considered are water analysis and supply, medicinal waters, spas and health resorts, diet, meat and milk inspection, relation of disease in animals to man, hygiene of factories, occupation diseases, caisson disease, altitude and ventilation, heredity, morbidity and mortality statistics, principles of heredity, prophylaxis and hygiene of transmissible diseases and tropical hygiene, personal hygiene, parasitology, lighting of buildings and care of the eyes, municipal sanitation and the functions of the health officer.

The lecturers for the session of 1910-1911 included Professors Lusk, Thompson, Hatcher, V. A. Moore, Torrey, Coleman, Stockard, Alexander, Johnston, Hastings, Bull, Murlin and Doctors Riggs, Webster, Keays, and Edgerton.

*Text-books.*—Bergey, *Text-book of Hygiene*; Notter, *Theory and Practice of Hygiene*; Egbert, *Hygiene and Sanitation*.



# CORNELL UNIVERSITY MEDICAL COLLEGE.

## MEDICAL JURISPRUDENCE.

This subject is covered in the regular course of study by several departments and by special lectures. The responsibilities of the physician towards the insane and their relatives and the general public, and the criminal aspects of the mentally defective, are discussed by Professor Hoch. In the course on Obstetrics Professor Edgar takes up the moral and legal side of rape, feigned and unconscious pregnancy, what constitutes a "live birth," feigned or unconscious delivery, injury to the fetus during precipitate labor, post-mortem delivery and the diagnosis of recent delivery. The medico-legal aspects of Toxicology are fully covered during the course in Pharmacology by Professor Hatcher. Dr. Schultze, in addition to his regular course in Gross Pathology, demonstrates medico-legal autopsies and cases of homicide, suicide, accident and abortion.

### SUMMARY OF REQUIRED COURSES.

Department.	First Year. Actual Hours.	First Year. Credits.	Second Year. Actual Hours.	Second Year. Credits.	Third Year. Actual Hours.	Third Year. Credits.	Fourth Year. Actual Hours.	Fourth Year. Credits.	Total Hours.	Total Credits.
Anatomy .....	647	21.1	66	2.2	...	...	...	...	713	23.3
Physiology .....	66	2.2	288	14.4	...	...	...	...	354	16.6
Chemistry .....	213	9.5	...	...	...	...	...	...	213	9.5
Pharmacology .....	...	...	189	8.	...	...	...	...	189	8.
Applied Phar. ....	...	...	...	...	95	4.9	...	...	95	4.9
Medicine .....	...	...	128	5.3	217	8.9	310	13.1	655	27.3
Clinical Pathology .....	...	...	...	...	120	4.	...	...	120	4.
Therapeutics .....	...	...	...	...	...	...	242	9.5	242	9.5
Surgery .....	...	...	63	3.1	208	7.2	336	15.5	607	25.8
Obstetrics .....	...	...	32	2.1	129	7.	...	...	161	9.1
Pathology .....	...	...	165	5.5	200	6.9	40	1.3	405	13.7
Bacteriology .....	...	...	110	3.6	...	...	...	...	110	3.6
Neurology .....	...	...	...	...	32	2.1	85	3.8	117	5.9
Psycho-pathology .....	...	...	...	...	...	...	44	1.8	44	1.8
Pediatrics .....	...	...	...	...	32	2.1	88	3.9	120	6.
Gynæcology .....	...	...	...	...	32	2.1	46	2.3	78	4.4
Genito-urinary* .....	...	...	...	...	58	2.8	5*	.3	63	3.1
Dermatology .....	...	...	...	...	...	...	25	.8	25	.8
Laryngology .....	...	...	...	...	...	...	15	.5	15	.5
Ophthalmology .....	...	...	...	...	...	...	33	1.4	33	1.4
Otology .....	...	...	...	...	...	...	15	.5	15	.5
Orthopædic Surgery .....	...	...	...	...	...	...	44	1.8	44	1.8
Hygiene .....	...	...	...	...	11	.7	21	1.4	32	2.1
Medical Jurisprudence .....	...	...	...	...	...	...	...	...	...	...
	926	32.8	1,041	44.2	1,134	48.7	1,349	57.9	4,450	183.6

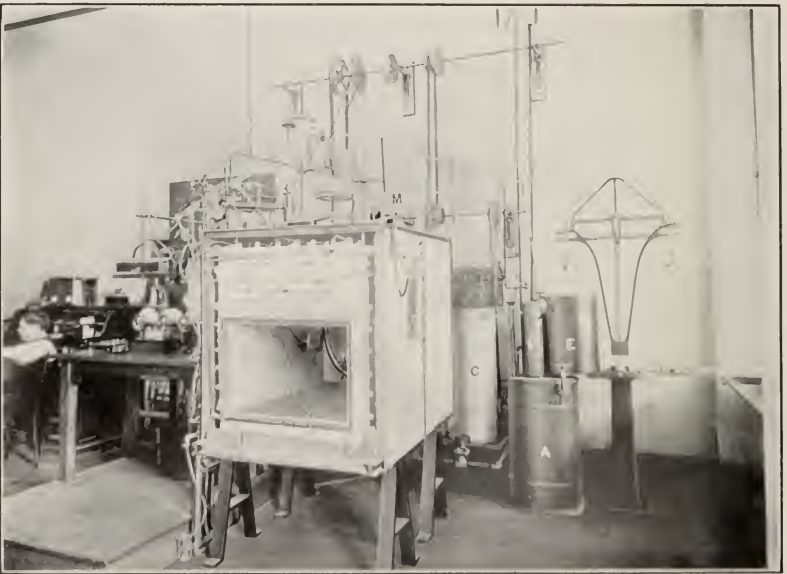
\*Hospital work included under Surgical "Clerkships" (see Surgery).

†Included under Departments of Psycho-pathology, Obstetrics and Pathology.





ONE OF THE RESEARCH LABORATORIES  
PHYSIOLOGICAL CHEMISTRY



CALORIMETRY ROOM, DEPARTMENT OF PHYSIOLOGY

## EXAMINATIONS AND ADVANCEMENT IN COURSE.

**I. Advancement.**—Students are advanced in course from one year to the next upon recommendation by heads of Departments after examination in the work of that year, but examinations in major or minor subjects may, at the discretion of the Head of the Department, include all the work previously covered in the year or years preceding the examinations in question. There is, however, no unnecessary repetition of subjects taught from year to year. Students who have not succeeded in passing all their examinations will be allowed to enter upon the next year's studies, provided they have, at the beginning of the session, passed examinations in the subjects in which they had failed.

**II. Examinations.**—Examinations for advancement in course, graduation, and admission to advanced standing are held at the close of the year, except that in each course extending through a part of the year only, the examination may be held at the close of the course.

A grade of 75 per cent. is required to pass. In case of failure, the grade being 60 per cent. or more, the student is entitled to one re-examination and not more. Re-examinations are held only during the week preceding that in which College opens. Examinations for those desiring admission to advanced standing, unless taken with the class at the end of the College year in May, are held during the week preceding the opening of College. For the session of 1911-1912 examinations for advanced standing, and for those in arrears will begin September 25th.

A student who fails to pass at re-examination in more than one minor subject shall not be allowed full registration in the succeeding year of the curriculum, and shall be required to repeat all courses in which, during the year ending in failure, he has received a lower grade than 80 per cent. In place of courses thus honorably passed with a grade of 80 per cent. or higher, he may elect appropriate courses from the succeeding year of the curriculum, thus avoiding unnecessary repetition. A student who twice fails in the equivalent of two major subjects (two minors being equal to one major) in a given year of the curriculum shall thereby forfeit his right to further registration in this College. A student failing in any one College year in more than the equivalent of two major subjects shall thereby forfeit his right to re-examination, and shall be required to repeat the year except that he may, at the discretion of the head of the department, be excused from repeating a course in which he has attained a grade of 80 per cent. or more.

**III. Major and Minor Courses.**—Major courses are those in which a student completes his work in a given department or subject. Minor courses comprise the shorter laboratory courses and those in which instruction is given by recitations only.

**IV. Record of Grades.**—At the completion of a final examination at the end of a course the grades of each student are to be promptly compiled

## CORNELL UNIVERSITY MEDICAL COLLEGE.

and submitted by the examiner to the College office for record by the Secretary, and grades once recorded are not subject to change except in accordance with the rules governing re-examination. (See II.)

**V. Registration.**—A student who has attained all the University credits of a given year shall be entitled to unconditional registration in the succeeding year of the curriculum. The completion of at least 80 per cent. of the required credits of a given year shall only entitle the student to register in the succeeding year conditioned on the satisfactory completion of the remaining 20 per cent.

**VI. Credits.**—One hour of didactic instruction or two hours of laboratory, section teaching, or ward work, pursued for one-half year (15 weeks), entitle to one University credit. It is roughly assumed that an hour of didactic instruction presupposes two hours of home study on the part of the student, and two hours of laboratory or clinical instruction presupposes one hour of home study; hence, in either case, three hours of the students' time is occupied.

**VII. Final Examinations.**—Final examinations are held at the end of a course, or coincident group of courses, in the hours allotted to said courses, or during the last week of the session, at the discretion of the head of the department, who will give notice of the date of examination through the office of the Secretary. All final examinations are conducted under the direction of the head of the Department.

### ADMISSION TO ADVANCED STANDING.

Applicants for advanced standing must have already attended the requisite number of courses in an approved, regular medical college, and may be admitted to advanced standing in any of the four years in Cornell University Medical College on presentation of satisfactory evidence showing that he has met in full the entrance requirements, together with evidence of having completed unconditionally medical courses, both laboratory and didactic, equivalent in amount and character to those given in the Cornell University Medical College in the year or years prior to that to which admission is sought. He must also pass examinations in the subjects indicated below, as already pursued by the class which he intends to enter, and, if passed, he shall receive a grade of 75 per cent. in such subjects as shall be respectively recommended by the examiners. Examinations for admission to advanced standing are conducted by heads of departments. In 1911 these examinations begin September 25th, and in 1912 they may be taken on May 27th or September 23d.

#### Subjects of Examination for Admission to the Second Year.

Major Subjects—Anatomy.

Organic Chemistry (including laboratory work).

Minor Subjects—Histology.

Embryology and Comparative Morphology.

Physiological Chemistry.

Physiology.



## CORNELL UNIVERSITY MEDICAL COLLEGE.

Conditions allowed (at the spring examinations): 1 Major and 1 Minor; or 2 Minor subjects.

NOTE 1.—In each of those branches in which recitations are held throughout the year, there shall be written reviews conducted by the instructors and supervised by the professor in charge of the department, and also a final written review conducted by the professor himself at the close of the year. The written reviews conducted by the instructors shall count as a single recitation, the object being to ascertain the knowledge acquired by the student.

NOTE 2.—*All conditions must be successfully passed before unconditional entrance into the next succeeding year will be allowed.*

### Subjects of Examination for Admission to the Third Year.

Major Subjects—Physiology.

Materia Medica and Pharmacology.

Minor Subjects—Medicine.

Surgery.

Obstetrics.

Bacteriology.

Anatomy.

Pathology.

Conditions allowed: 1 Major and 1 Minor; or 2 Minor subjects.

(See Notes 1 and 2 above.)

### Subjects of Examination for Admission to the Fourth Year.

Major Subjects—Applied Pharmacology.

Pathology.

Obstetrics.

Minor Subjects—Medicine.

Surgery.

Clinical Pathology.

Pediatrics.

Neurology.

Pathological Anatomy.

Genito-urinary Diseases.

Conditions allowed: 1 Major and 1 Minor; or 2 Minors.

(See Notes 1 and 2 above.)

### Subjects of Examination for Graduation at the End of the Fourth Year.

Major Subjects—Medicine.

Surgery.

Therapeutics.

Gynæcology.

Minor Subjects—Hygiene.

Ophthalmology.

Neurology.

Laryngology and Rhinology.

Orthopædics.

Pediatrics.

Psycho-pathology.

Otology.

Dermatology.

Genito-urinary Diseases.



## CORNELL UNIVERSITY MEDICAL COLLEGE.

The examinations in the major subjects are allowed two hours, and in the minor subjects one hour each.

If any student fails to pass in not more than one major, or in two minor subjects, a re-examination in those subjects may be allowed within two weeks, and if the candidate is then successful the degree may be conferred.

If the candidate fails to pass in any subject at this second examination, the work of the fourth year must be repeated.

### REQUIREMENTS FOR GRADUATION.

1. Candidates for the degree of doctor of medicine must have studied medicine for four full years in an accredited medical college, and the fourth year at least must have been spent in the Cornell University Medical College.

2. Candidates must present satisfactory evidence of good moral character and of being not less than twenty-one years of age.

3. Candidates must file with the Secretary of the Faculty satisfactory evidence of having complied with the entrance requirements (see page 23), together with the requisite legal medical student certificate.

NOTE.—This certificate is issued by the Department of Education of the State of New York on presentation of a diploma from a recognized College or University or properly attested certificate showing that such a diploma has been granted, together with a fee of twenty-five cents. If the student so requests, the Secretary of the Faculty may forward such diploma or certificate to the Department of Education of the State of New York with a request for the legal medical student certificate.

4. Candidates must have dissected at least one lateral half of the cadaver (see page 34). They must, further, have taken the regular course of two weeks in practical obstetrics, and a certificate covering this course must be filed at the Secretary's office before registration for the final examinations, which begin about the last week of May.

5. In addition to the yearly examinations above specified for advancement in course, candidates must pass at the end of the fourth year examinations in medicine, surgery, therapeutics, gynecology, and the special branches which are specified on page 67.

6. Candidates rejected at the final examination will not be re-examined until after having repeated the fourth year of study.

Before being readmitted to the fourth year the candidate may be required to pass a satisfactory examination in anatomy, physiology, chemistry, and materia medica, the major subjects of the preceding years.

7. The degree will not be conferred upon any candidate who absents himself from the public Commencement without the special permission of the Faculty.

8. The Faculty reserves the right to terminate the connection of any student with the institution *at any time* on the ground of what they may deem moral or mental unfitness for the profession, or improper conduct while connected with the College.

### DIPLOMAS OF LICENTIATE OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON AND MEMBERSHIP OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Graduates of the Cornell University Medical College are admitted to the final examinations for diploma of Licentiate of the Royal College of Physi-

## CORNELL UNIVERSITY MEDICAL COLLEGE.

cians of London and Membership of the Royal College of Surgeons of England, upon presenting proper certificates that certain conditions applicable to the foreign universities and colleges, which are recognized by the examining board, have been complied with.

Further information may be obtained from the Secretary of the Board (Mr. F. G. Hallet) at the Examination Hall, Victoria Embankment, London, W. C.

### Prizes.

#### I. For general efficiency.

In commemoration of John Metcalfe Polk, an Instructor in this College, who was graduated from the Medical Department of Cornell University on June 7, 1899, and died on March 29, 1904, an annual prize of \$500 will be presented at each Commencement to the members of the Graduating Class who have completed the full course of study in Cornell University Medical College.

This prize will be awarded as follows:

To the student having the highest standing.....	\$300
To the student having the second highest standing.....	\$125
To the student having the third highest standing.....	\$75

#### II. For efficiency in Neurology.

Two prizes, one of \$50 and another of \$25, are offered by Professor Dana to the students of the graduating class, to be designated by him, who make the two best reports of neurological cases seen during the course, provided these reports are considered of sufficient merit to warrant the bestowal of a prize.

#### III. For efficiency in Otolaryngology.

Two prizes, the first of \$50, the second of \$25, are offered by Professor Whiting to the two students of the graduating class to be designated by him, who make the best records in the practical and theoretical work in otology.

### Fellowships.

#### I. Fellowship in Medicine.

A fellowship of \$250 has been established in the Medical Out-Patient Clinic by an anonymous donor. This fellowship is awarded for the purpose of stimulating interest in the Dispensary classes and in the conduction of special investigations in medical subjects which may be assigned for research. The holder is given charge of a dispensary class in General Medicine throughout the year, and facilities are furnished for the transaction of research in some definite medical subject.

#### II. Fellowship in Pathology.

A fellowship with an annual income of \$250 has been established in the Department of Experimental Pathology, and will be awarded to a graduate in Medicine who desires to pursue laboratory investigation in some field of Pathology.

This fellowship is at present held by Robert A. Cooke, M.D.

### Hospital Appointments.

The students and graduates of the Cornell University Medical College are expected to compete for positions on the resident staff of Bellevue and the other hospitals of the city.

Some of these hospitals are: The City, Harlem, Gouverneur, New York, St. Luke's, Presbyterian, St. Vincent's, St. Francis', Mount Sinai, German, Hudson Street, New York Eye and Ear Infirmary, and the many hospitals in Brooklyn, Jersey City, Newark, Paterson, etc.

The requirements, the times of examination, and the period of service differ. The details can be learned by application, written or in person, to the superintendents or to the secretaries of the medical boards of the various hospitals.

## HOSPITAL APPOINTEES.

Class of 1910.

### *Bellevue Hospital*

(SECOND DIVISION.)

Clarence A. Read (1st place).

James H. Biram.

Benjamin H. Betts.

Walter H. Brundage.

Raymond Wearne.

William L. Howell.

Solon C. Wolff.

(FIRST DIVISION.)

John C. Carmer.

(FOURTH DIVISION.)

John S. Ware.

### *Presbyterian Hospital.*

Berton Lattin.

Malcolm K. Smith.

### *New York Hospital.*

John F. Cowan.

Earl V. Sweet.

### *St. Luke's Hospital.*

Francis J. McCormick.

William P. St. Lawrence.

Jesse R. Pawling.

### *Fordham Hospital.*

Herman E. Schorr.

### *St. Vincent's Hospital.*

Walter H. McNeill, Jr.

### *Mt. Sinai Hospital.*

Saul Levy.

Jacob Sachs.

Jesse D. Schwartz.

Samuel Silverman.

Abraham J. Newman.

### *Brooklyn City Hospital.*

Ransom S. Robertson (1st place).

### *Beth Israel Hospital.*

Isaac Goldberg.

Urius Himmelstein.

### *Lebanon Hospital.*

Jacob Grossman.

Irving B. Krellenstein.

### *Brooklyn German Hospital.*

Sidney D. Smith.

### *Hudson Street Hospital.*

George F. Hoch.

### *N. Y. Post-Graduate Hospital.*

Halbert W. Chappell.

### *Harlem Hospital.*

James E. Baker.

### *Gouverneur Hospital.*

Earl C. Reynolds.

### *Lincoln Hospital.*

Charles M. Allaben (1st place).

Gerhard L. Moench.

CORNELL UNIVERSITY MEDICAL COLLEGE.

*Methodist Episcopal (B'klyn)*

John F. Kelly.

Harold L. Hall.

*J. Hood Wright Hospital.*

Edward Hoenig.

*St. John's Riverside Hospital,  
Yonkers, N. Y.*

Romeo Roberto.

*St. John's Hospital,  
Long Island City.*

Charles Lutz, Jr.

*Passaic General Hospital.*

Walter L. Liefeld.

*Mercy Hospital,  
Springfield, Mass.*

Raymond J. Gaffney.

*Buffalo Deaconess' Hospital.*

Clarence H. Mackey (1st place).

*St. Luke's Hospital,  
Utica, N. Y.*

Edwin F. Gibson.

*Brooklyn Jewish Hospital.*

Samuel Linder.

Jesse B. Stark.

Charles Breitman.

*B'klyn Eastern District Hospital.*

Albert Polon.

*Sydenham Hospital.*

David B. Hirschfeld.

*N. Y. City Children's Hospital and  
Schools, Randall's Island Hospital.*

Perry M. Lichtenstein (1st place).

Charles I. Hyde.

Jacob Luftig.

Louis Korowitz.

*Montefiore Home.*

Max Schultz.

*Jersey City Hospital.*

Gustave F. Boehme (1st place).

*Williamsburg Hospital,  
Brooklyn, N. Y.*

Elizabeth Bruyn.

*Syracuse Hospital for Women and  
Children.*

Belle Richens.

*Worcester Memorial Hospital.*

Adeline Wescott.

*Methodist Episcopal Hospital,  
Philadelphia, Pa.*

Jennie A. Dean.

*New Orleans Hospital for Women  
and Children.*

Maud Loeber.



ITHACA DIVISION.





STIMSON HALL

## FACULTY OF MEDICINE AT ITHACA.

JACOB GOULD SCHURMAN, A.M., D.Sc., LL.D.,  
*President.*

SIMON HENRY GAGE, B.S.,  
*Professor of Histology and Embryology, Emeritus.*

WILLIAM RIDGELEY ORNDORFF, A.B., Ph.D.,  
*Professor of Organic Chemistry.*

ABRAM TUCKER KERR, B.S., M.D.,  
*Professor of Anatomy.*

BENJAMIN FREEMAN KINGSBURY, Ph.D., M.D.,  
*Professor of Histology and Embryology.*

SUTHERLAND SIMPSON, D.Sc., M.D., F.R.S. (*Edin.*),  
*Professor of Physiology.*

ANDREW HUNTER, A.M., B.Sc., M.B., Ch.B.,  
*Assistant Professor of Biochemistry.*

MELVIN DRESBACH, M.S., M.D.,  
*Assistant Professor of Physiology.*

JACOB PARSONS SCHAEFFER, A.M., Ph.D., M.D.,  
*Assistant Professor of Anatomy.*

WILLIAM ATWOOD HILTON, B.S., Ph.D.,  
*Instructor in Histology and Embryology.*

EMMET FRANCIS HITCH, A.M.,  
*Instructor in Chemistry.*

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*Instructor in Physiology.*

MAURICE HOPE GIVENS, Ph.B.,  
*Instructor in Biochemistry.*

JAMES A. BADERTSCHER, A.M.,  
*Assistant in Histology and Embryology.*

PHILIP EDWARD SMITH, B.S.,  
*Assistant in Histology and Embryology.*

EDWARD RILEY ALLEN, B.S. Agr.  
*Assistant in Chemistry.*

ABRAM T. KERR, B.S., M.D.,  
*Secretary of the Medical College at Ithaca.*

## INSTRUCTION AT ITHACA.

DURING THE FIRST YEAR OF THE COURSE.

### CALENDAR FOR ITHACA.

#### First Term, 1911-1912.

September 25th, Monday.—Academic year begins; matriculation of new students; University scholarship examinations begin.  
September 26th, Tuesday.—Matriculation of new students.  
September 27th, Wednesday.—Registration of matriculated students.  
September 28th, Thursday.—Instruction begins in all departments of the University at Ithaca. President's annual address to students at 12 M.  
December 20th, Wednesday.—Christmas recess begins.  
January 3d, Wednesday.—Instruction resumed.  
January 11th, Thursday.—Founder's Day.  
February 7th, Wednesday.—First term closes.

#### Second Term.

February 10th, Saturday.—Registration for the second term.  
April 3d, Wednesday.—Instruction ends.  
April 9th, Tuesday.—Instruction resumed.  
June 1st, Saturday.—Navy Day.  
June 12th, Wednesday.—Instruction ends.  
June 20th, Thursday.—Forty-third annual Commencement.

#### General Statement.

From its very foundation Cornell University has offered special courses for students preparing for the study of Medicine; first in the Natural History course, and later also in a special two-year Medical Preparatory course. In 1898 the Medical College was established in New York City with a four years' course. At the same time the work of the first two years was duplicated at the University in Ithaca, since many of the fundamental scientific subjects of which this part of the course mainly consists were already provided for in the long-established departments of Botany, Zoölogy, Comparative Anatomy, Physics, Chemistry, Physiology, Histology, Embryology and Bacteriology. The courses in these departments were modified where necessary and additional courses were added so as to make the work at Ithaca fully equivalent to the first two years in New York City.

Among the facilities of the University of special value to the Medical College may be mentioned the museums of Vertebrate and Invertebrate Zoölogy, including Entomology and Comparative Anatomy, of Agriculture, of Botany, of Geology, and of Veterinary Medicine. The University Library, with its 365,000 bound volumes, 55,000 pamphlets, and over 2,000 current periodicals and transactions, is as freely open to medical students as to other University students.

## CORNELL UNIVERSITY MEDICAL COLLEGE.

Through the generosity of the late Dean Sage, of Albany, the University has been enabled to erect a building especially designed for anatomy, histology, embryology, and physiology. The building is constructed of Ohio sandstone. The general form is that of an E, 157 feet long and 50 feet wide, with wings 40 feet square.

In the cellar are the cold-storage, embalming, and cremating rooms and store-rooms, and a large room, forty feet square, for aquaria, projection, etc.

In the basement are the ventilating and cold-storage machinery, a large lecture room, a recitation room, and an advanced laboratory for biochemistry, besides the lower part of the large amphitheatre.

On the first floor are located the cloak rooms for men and women, college office, library, reading room, faculty room, and private laboratory for histology, general laboratory for experimental physiology, demonstration, and dark room for physiology and the upper part of the large amphitheatre.

On the second floor is the department of histology, with a large general laboratory, a research laboratory, preparation rooms and private laboratories for the instructors. Upon this floor also is located the department of Physiology with a large general laboratory for biochemistry, a research laboratory for biochemistry, a research laboratory for experimental physiology, a metabolism room, an incubator room, repair room, and private laboratories for the instructors.

The third floor consists of the general and special dissecting rooms, study rooms, and amphitheatre, besides rooms for the instructors.

The attic is utilized for photography, macerating the skeletons, and for storage.

The air in the building is constantly changed by forced ventilation. The lighting is especially good in all the rooms, as shown by the picture opposite page 72.

## DEPARTMENTS, METHODS AND FACILITIES.

### ANATOMY.

ABRAM T. KERR, B.S., M.D., *Professor.*

JACOB PARSONS SCHAEFFER, A.M., Ph.D., M.D., *Assistant Professor.*

Anatomy is mostly concentrated into the first term. This gives a large amount of continuous time for the subject, which consists mainly of practical work in the laboratory. Each student is independent of the others, and those with special training or ability are encouraged to do more than the required work. Personal quizzes and demonstrations are given upon each stage of the work. In addition to this, there are frequent recitations and demonstrations to small sections of the class. The students are encouraged to make careful notes and drawings of the conditions which they find in their specimens. To facilitate the drawings, outline record charts are furnished. Clay also is provided for modelling bones and other parts. The department is well equipped with models and special preparations. These are for use in the demonstrations and also for the personal use of students in the laboratory. There is plenty of dissecting material, which is embalmed and kept in cold storage so as to be ready for use when needed.

The work is distributed as follows: In the first term twenty-two hours per week are given to Anatomy. A complete disarticulate skeleton is loaned to each student. The head, neck, thoracic walls and viscera, abdominal walls and viscera including the pelvis, will be dissected during the term. The bones of the parts dissected will be taken up as they are reached in the progress of the dissection. The organs will be studied not only topographically and systematically, but enough of the structure will be considered to facilitate the work in Histology and Physiology. In the demonstrations and recitations accompanying the dissecting work, a considerable use is made of live models to facilitate an appreciation of the conditions existing in the live body at the same time they are being studied in the cadaver.

In the second term the students attend demonstrations and recitations in which the work of the preceding term is reviewed, and an attempt is made to locate the position and relation of structures studied upon the live body. The gross anatomy of the central nervous system is studied in the laboratory.

Courses 1, 2, 3, 4, 5 and 6 are required of first year medical students.

Those who satisfactorily complete the required work, and others properly qualified, may do advanced work.

**1. Anatomy of the Head and Neck.**—First term. Credit,  $3\frac{1}{2}$  hours, 22 actual hours per week for 6 weeks. Professors Kerr and Schaeffer. Laboratory work; dissection and conference.

**2. Anatomy of the Thoracic Walls and Viscera.**—First term. Credit, 2 hours, 22 actual hours per week for 3 weeks. Professors Kerr and Schaeffer. Laboratory work; dissection and conference.



3. **Anatomy of the Abdominal and Pelvic Walls and Viscera.**—First term. Credit, 3½ hours, 22 actual hours per week for 6 weeks. Professors Kerr and Schaeffer. Laboratory work; dissection and conference.

4. **Anatomy of the Head and Neck, Thorax, and Abdomen.**—First term. Credit included in Courses 1, 2 and 3. Professors Kerr and Schaeffer. Lectures, demonstrations and recitations with the use of dissections, models, and the live body.

5. **Anatomy of the Central Nervous System.**—Second term. Credit, 2 hours, 5 actual hours per week. Professor Kerr. Dissection of the Spinal Cord and Brain, with occasional demonstrations and recitations.

6. **Anatomy of the Living Body.**—Second term. Credit, 1 hour, 2 actual hours per week. Assistant Professor Schaeffer. Interpretation of dissecting room material by means of the living body.

7. **Anatomy of the Upper Extremity.**—First term. Credit, 3 hours. Professor Kerr. Laboratory work; dissection and conference.

8. **Anatomy of the Lower Extremity.**—First term. Credit, 3 hours. Assistant Professor Schaeffer. Laboratory work; dissection and conference.

9. **Topographical Anatomy.**—First and second terms. Credit, 2 to 5 hours. Prerequisite anatomy courses 1, 2, 3, 4, 7, or 8. Assistant Professor Schaeffer. The detailed dissection and study of any region.

12. **Research in Anatomy.**—First and second terms. Professors Kerr and Schaeffer. Advanced and research work in the laboratories. Open only to those who have taken the necessary preliminary courses, and are properly qualified.

## HISTOLOGY AND EMBRYOLOGY.

B. F. KINGSBURY, Ph.D., M.D., *Professor.*

WILLIAM A. HILTON, Ph.D., *Instructor.*

JAMES A. BADERTSCHER, A.M., *Assistant.*

PHILIP E. SMITH, B.S., *Assistant.*

As indicated by the following courses, this department offers elementary and advanced instruction in the theory and use of the microscope and its accessories, in photo-micrography, in vertebrate histology, and vertebrate embryology; and opportunities for research in all of these subjects.

The material equipment consists of a good supply of modern microscopes, while camera-lucidas, polariscopes, micro-spectroscopes, photo-micrographic cameras, microtomes and other special apparatus are in sufficient numbers to give each student opportunity for personally learning to use them, and for applying them to any special study in which they are called for. Two projection microscopes are available for class demonstrations and for making the drawings used in reconstruction. The collection of histologic and embryologic specimens is extensive and constantly increasing.

The rooms for the use of the department are on the second floor of Stimson Hall. They are almost perfectly lighted and consist of a large general laboratory, an advanced laboratory, a preparation room, department office, and five private laboratories for the instructing staff, where also special demonstrations of difficult subjects are given to small groups of students.

## CORNELL UNIVERSITY MEDICAL COLLEGE.

The aim of the department is to bring the student into direct contact with the truths of nature, and hence, while there are demonstration lectures and conferences to give broad and general views, there is relatively a large amount of laboratory work in which the facts are learned at first hand, and the methods and manipulations necessary for acquiring the facts are practiced by each student. This lake region with its rich and varied fauna is especially favorable for investigation in the histology and embryology of all the main groups of vertebrates; and the proximity of the abattoirs in the city makes it possible to obtain material for the study of the development of the sheep, cow, and pig. The clinic and veterinary department supply material for the embryology of the cat and dog, so that the opportunities for research upon the development of animals are excellent. The collection of material and microscopic series of human embryology, contributed mainly by graduates of the college, is steadily growing. Every encouragement is given for the fullest utilization of these opportunities.

The work required of students of medicine is given in two courses, 10 and 5. For those who have already had elsewhere satisfactory work in histology, elective work may be taken in Courses 3, 7, and 8. Courses open to students in the Colleges of Arts and Sciences and Veterinary Medicine are given in the Courses of Instruction of these Colleges.

### COURSES REQUIRED OF STUDENTS OF MEDICINE.

**10. Histology.**—First term. Credit, 5 hours. Professor Kingsbury and Instructor Hilton. Required of first year students of medicine. Three laboratory periods and two lectures each week. The work includes: (a) The histology of the tissues and organs (except the nervous system and organs of sense); (b) the main facts of histogenesis and the development of the organs (except nervous system and sense organs). Since the development of the body is not taken up in detail, it is highly advantageous that it be preceded by a course in embryology (see Courses of Instruction of the College of Arts and Sciences, Course 4).

**5. The Nervous System and Organs of Sense.**—Histology and Development. Second term. Credit, 2 hours. Professor Kingsbury and Instructor Hilton. Two laboratory periods with laboratory conferences and quizzes. The microscopic structure and development of the nervous system and organs of sense are systematically studied.

### ADVANCED AND ELECTIVE COURSES.

**3. Special Histology and Technique.**—First term. Credit, 3 hours. Professor Kingsbury and Instructor Hilton. One recitation, demonstration, or lecture, T. 8. Two laboratory periods by assignment.

In this course a more detailed knowledge of histology and facility in technique is gained by practical work in one or more of the fields of histology or embryology. Designed for those who desire a better working knowledge of histology for use in Biology or Medicine.

**7. Advanced Work in Histology and Embryology.**—First and second terms. Professor Kingsbury and Instructor Hilton. Laboratory work, eight or more actual hours per week, with Seminary (Course 8).

## CORNELL UNIVERSITY MEDICAL COLLEGE.

This course is designed for those preparing theses for baccalaureate or advanced degrees, and for those wishing to undertake special investigations in histology and embryology.

Course 7 is open to those who have had Courses 10 and 3, or their equivalents. A good reading knowledge of French and German is indispensable for the most successful work in this course. It is suggested that those who intend to take this course confer with the head of the Department as early as possible, so that the work may be planned to the best advantage.

**8. Seminary.**—First and second terms. One hour each week at an hour to be arranged.

For the discussion of current literature and the presentation of original work by the members of the Department staff and those doing advanced work in the Department. It may be taken in connection with Course 3 or Course 7.

### DEPARTMENT OF PHYSIOLOGY AND BIOCHEMISTRY.

SUTHERLAND SIMPSON, M.D., D.Sc., F.R.S. (Edin.), *Professor of Physiology*.  
ANDREW HUNTER, M.A., B.Sc., M.B., Ch.B., *Assistant Professor of Biochemistry*.

MELVIN DRESBACH, M.S., M.D., *Assistant Professor of Physiology*.  
———, *Instructor in Physiology*.

MAURICE H. GIVENS, Ph.B., *Instructor in Biochemistry*.

#### Physiology.

This subject is taught in the first and second terms of the first year, and the work is carried on by means of lectures, recitations, demonstrations, and practical laboratory instruction. In the laboratory the student is made to carry out for himself experiments which demonstrate the fundamental facts of the science, and he is taught to draw conclusions from these facts. Special attention is given to experimental methods which are likely to be of importance in the study of clinical medicine.

The following courses are offered:

**1. Physiology of the Cell, Muscle, Nerve, Heart and Circulation, Blood and Lymph, and Respiration.**—First term. Credit, 3 hours. Professor Simpson and assistants. Three lectures or recitations weekly with demonstrations, where necessary. At frequent intervals written and oral examinations will be held.

**2. Physiology of Digestion, Excretion, Internal Secretion, Animal Heat, and Reproduction.**—Second term. Credit, 3 hours. Professor Simpson and assistants. Five lectures or recitations weekly for the first ten weeks of the term, with demonstrations and examinations as in Course 1. The latter part of this course will be taken up with a review of the whole subject.

**4. Experimental Physiology.**—Second term. Credit, 5 hours. Professor Simpson and assistants. Four three-hourly laboratory periods per week. In this course the physiology of the cell, muscle, nerve, heart and

## CORNELL UNIVERSITY MEDICAL COLLEGE.

circulation, blood, respiration, alimentary system including liver and pancreas, internal secretion, body temperature and animal heat, nervous system and special senses will be studied practically by each student individually under the direct superintendence of the professor and assistants. The course will be supplemented by demonstrations whenever necessary. Practical examinations will be held from time to time, and the student's knowledge of the work tested orally at each meeting.

**5. Physiology of the Nervous System and Special Senses.**—Second term. Credit, 2 hours. Professor Simpson. This is given as a special course of lectures, five weekly for the last six weeks of the term, after the student has studied the anatomy of the brain and spinal cord, and special sense organs.

**7. Seminary.**—First and second terms. Credit, 1 hour. A seminary is held in association with Biochemistry at which current literature is discussed, and the results of original investigations carried on by workers in the laboratories are presented for criticism. Students are required to attend these meetings and to take part in the discussions, and each student is expected to give a communication on at least one occasion during the two terms.

**8. Advanced Work and Research.**—The laboratory is open daily from 8 A.M. till 6 P.M. for advanced work and original investigation under the direction of the professor and assistants.

### Biochemistry.

In this section the student is taught the chemistry of the tissues, fluids, secretions, and excretions of the human body; the composition of food-stuffs, and the phenomena of their digestion, absorption, and assimilation; the rôle of enzymes in the animal economy; the principles of nutrition; and the leading facts of general and special metabolism. Instruction is given in the use of analytical methods for the examination of biological products, both normal and pathological. Those methods are principally considered which have found an application in scientific medicine, and special attention is devoted to the quantitative analysis of the gastric contents, milk, and urine. Each student completes the course by performing a metabolism experiment upon himself.

The bulk of the instruction is given in the laboratory. As occasion arises, the student's individual work there is supplemented by experimental demonstrations: while by means of the lecture course and frequent recitations it is sought to coordinate the whole, and to expound the theoretical aspects of the subject.

The following courses are offered:

**15. General Biochemistry.**—Second term. Credit, 2 hours. Two lectures weekly. Assistant Professor Hunter. Required of first year students of medicine.

**16. Practical Biochemistry.**—Second term. Credit, 4 hours. Assistant Professor Hunter and Instructor Givens. Three three-hour laboratory



## CORNELL UNIVERSITY MEDICAL COLLEGE.

periods and one or more recitations weekly; supplemented by demonstrations, conferences and written reviews. Required of first year students of medicine.

**17. Special Chapters in Biochemistry.**—First term. Credit, 1 hour. Assistant Professor Hunter. One lecture weekly on some selected province of biological chemistry. Hour to be arranged. This is an elective course for advanced students or graduates.

**20. Advanced and Research Work in Biochemistry.**—First and second terms. Assistant Professor Hunter and Instructor Givens. The laboratory is open daily to all qualified persons for advanced instruction or the prosecution of research. Courses are arranged to suit the training and requirements of the individual student.

**7. Seminary.**—See Physiology, Course 7.

### CHEMISTRY.

WILLIAM RIDGELY ORNDORFF, A.B., Ph.D.,

*Professor of Organic Chemistry.*

EMMET FRANCIS HITCH, A.M.,

*Instructor in Chemistry.*

EDWARD RILEY ALLEN, B.S. Agr.

*Assistant in Chemistry.*

**Organic Chemistry, or the Chemistry of the Compounds of Carbon.**—In this course the study of the typical compounds of carbon, their properties, reactions, and relations to one another, is taken up, especial attention being given to those organic substances that are of physiological importance. The course consists of lectures, recitations supplemented by frequent written examinations, and laboratory work. The lectures are fully illustrated by experiments, specimens of the compounds considered, and charts.

**32. Elementary Organic Chemistry.**—First term Credit, 4 hours. Three lectures, recitations, or written reviews, and three hours' laboratory work weekly. Mr. Hitch and Mr. Allen.



# CORNELL UNIVERSITY MEDICAL COLLEGE.

## SCHEDULE AND SUMMARIZED STATEMENT.

In this schedule the Counts or University hours are given on the following basis: One recitation or lecture weekly for one term or half year gives a credit of one; for laboratory work it requires two and one-half actual hours weekly for a term or half a year to secure a credit of one.

### SCHEDULE OF REQUIRED COURSES.

#### *First Term.*

	<i>No. of Course.</i>	<i>University Hours.</i>	<i>Actual Hours per Week.</i>
Anatomy .....	1 to 4	9	22
Physiology .....	1	3	3
Organic Chemistry .....	32	4	6
Histology .....	10	5	11
		—	—
		21	42

#### *Second Term.*

Histology .....	5	2	5
Physiology .....	2	3	3
Physiology .....	4	5	13
Physiology .....	5	2	2
Biochemistry .....	15 and 16	6	12
Anatomy .....	5	2	5
Anatomy .....	6	1	2
		—	—
		21	42

### SUMMARY OF REQUIRED COURSES.

#### *First Term.*

1. **Anatomy of the Head and Neck.**—Credit,  $3\frac{1}{2}$  hours, 22 actual hours per week for 6 weeks. Professors Kerr and Schaeffer. Laboratory work; dissection and conference.

2. **Anatomy of the Thoracic Walls and Viscera.** Credit, 2 hours, 22 actual hours per week for 3 weeks. Professors Kerr and Schaeffer. Laboratory work; dissection and conference.

3. **Anatomy of the Abdominal and Pelvic Walls and Viscera.**—Credit,  $3\frac{1}{2}$  hours, 22 actual hours per week for 6 weeks. Professors Kerr and Schaeffer. Laboratory work; dissection and conference.

4. **Anatomy of the Head and Neck, Thorax, and Abdomen.**—Credit included in Courses 1, 2 and 3. Professors Kerr and Schaeffer. Lectures, demonstrations, and recitations with the use of dissections, models, and the live body.

## CORNELL UNIVERSITY MEDICAL COLLEGE.

**1. Physiology of the Cell, Muscle, Nerve, Heart and Circulation, Blood and Lymph, and Respiration.**—Credit, 3 hours. Professor Simpson and assistants. Three lectures, demonstrations or recitations weekly.

**32. Elementary Organic Chemistry.** First term. Credit, 4 hours. Three lectures, recitations, or written reviews, and three hours' laboratory work weekly. Mr. Hitch and Mr. Allen.

**10. Histology.**—Credit, 5 hours. Professor Kingsbury and Dr. Hilton. Three laboratory periods and two lectures each week.

### *Second Term.*

**5. The Nervous System and Organs of Sense.**—Credit, 2 hours. Professor Kingsbury and Dr. Hilton. Histology and Development. Two laboratory periods with laboratory conferences and quizzes.

**2. Physiology of Respiration, Digestion, Excretion, Internal Secretion, Animal Heat, and Reproduction.**—Credit, 3 hours. Professor Simpson and assistants. The latter part of the course will be taken up with a review of the whole subject. Five lectures or recitations weekly for the first ten weeks of the term with demonstration and examinations.

**4. Experimental Physiology.**—Credit, 5 hours. Professor Simpson and assistants. Four three-hour laboratory periods per week. This course will be supplemented by demonstrations whenever necessary.

**5. Physiology of the Nervous System and Special Senses.**—Credit, 2 hours. Professor Simpson. Five lectures per week for the last six weeks of the term.

**15. General Biochemistry.**—Credit, 2 hours. Two lectures weekly. Assistant Professor Hunter.

**16. Practical Biochemistry.**—Credit, 4 hours. Assistant Professor Hunter and Instructor Givens. Three 3-hour laboratory periods, and one or more recitations weekly; supplemented by demonstrations, conferences and written reviews.

**5. Anatomy of the Central Nervous System.**—Credit, 2 hours, 5 actual hours per week. Professor Kerr. Dissection of the Spinal Cord and Brain, with occasional demonstrations and recitations.

**6. Anatomy of the Living Body.**—Credit, 1 hour, 2 actual hours per week. Assistant Professor Schaeffer. Interpretation of dissecting room material by means of the living body.

### REQUIREMENTS FOR ADMISSION.

The requirements for admission are identical with those of the college at New York City (see page 23).

# CORNELL UNIVERSITY MEDICAL COLLEGE.

## THE COMBINED A.B. AND M.D. DEGREES.

It will be seen from Section II of the requirements for admission that the two degrees, Bachelor of Arts and Doctor of Medicine, may be obtained in seven years. The first three years must be taken in the College of Arts and Sciences. The fourth year is the first year in the Medical College, and at the end of it the student receives the degree of A.B. The last three years are also taken entirely in the College of Medicine at New York City. In the first and second years of the course in Arts and Sciences certain subjects are prescribed, and the rest are elective as appears from the following rule:

Before a student may be registered as a Junior he must have completed sixty hours of work, which shall include in English and History six hours, in one or more languages other than English six hours, in Philosophy and Mathematics six hours, and in Physics, and Chemistry, Geology, Physical Geography, and the biologic sciences six hours, of which hours the student is required to take at least twelve, and advised to take more, in his freshman year. Each six hours may be entirely in one division (for example, Philosophy six hours), or partly in one and partly in another (for example, Philosophy three hours and Mathematics three hours).

For admission to the Medical College Physics, Chemistry and Biology are prescribed.

The requirements specified in the two preceding paragraphs are met in the following curriculum:

### FIRST YEAR ARTS.

	<i>Course.</i>	<i>1st Term.</i>	<i>2d Term.</i>
English or History.....	—	3	3
*Foreign Language .....	—	3	3
Biology .....	1	3	3
‡Mathematics or Philosophy.....	—	3	3
Physics Lectures .....	1	4	—
§Physics Recitations .....	5	—	2
Physics Laboratory .....	10	—	2
		16	16

\*Students should have a reading knowledge of French and German.

‡Those who have Solid Geometry and Trigonometry should elect Philosophy.

§In place of course 5 students may elect two additional hours in course 10, but should notify the professor in charge.

### SECOND YEAR ARTS.

	<i>Course.</i>	<i>1st Term.</i>	<i>2d Term.</i>
Chemistry, Inorganic .....	1	6	—
Chemical Analysis—Qualitative and Quantitative .....	6	—	5
*Biology .....	4	4	4
‡Elective .....	—	8	10
		18	19

\*Courses in Biology, Zoology, Histology and Embryology, to suit the needs of the students.

‡Those who have not a reading knowledge of French and German should elect one or both of these languages. Students who elect Mathematics in their first year should take Philosophy in their second.

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The rest of the work in the second year and the entire third year is elective. In regard to the elective work the secretary of the Medical College will be glad to confer with students in Arts and Sciences, who later expect to enter the Medical College.

### **RESIDENCE AND REGISTRATION.**

The college year is nine months long, extending from the last of September till about the middle of June, and is divided into two nearly equal terms. (For exact dates, see calendar on page 73.)

No credit is given for work done in absentia. For leave of absence during the session, application should be made to the Secretary.

At the beginning of the term (September 25 and 26, 1911, and February 10, 1912) students must register with the University Registrar, in Morrill Hall. After registration with the University Registrar, they must register with the Secretary of the Medical College, in Stimson Hall.

### **EXAMINATIONS.**

Students are advanced in course from one year to the next upon passing examinations upon the work of that year. The work of each year is considered final of itself. There is no unnecessary repetition of subjects taught from year to year. According to the usage of the other colleges, the University student found to be markedly deficient will be dropped from the College at the end of the term in which such deficiency is shown. In the case of a student so dropped, an application for re-admission will not be entertained until after the expiration of one term.

### **ADVANCEMENT FROM FIRST TO SECOND YEAR.**

Upon the completion of the year in Ithaca, the student must obtain from the Faculty a statement of all the work which he has done; and accompanying this statement must be a recommendation that he be allowed to register in the New York division of the Medical College. As a student is not advanced from one year to another in the New York division until all the work of the year is completed, a student from Ithaca cannot enter the second-year class in New York until the entire schedule of the first year has been successfully completed. For removing any conditions, examinations are held at the beginning of the fall term, both in Ithaca and in New York City. The student is at liberty to take these examinations in Ithaca or in New York City. The examination on a subject in either place is final for that year. That is, the student will not be permitted to try an examination on a subject in Ithaca, and take advantage of the later date for the examination in New York to have a second examination on the same subject in the same autumn.

If a student is deficient in two or more subjects there is no objection to his taking the examination in one or more subjects in Ithaca, and the remaining ones in New York, the same autumn.



## CORNELL UNIVERSITY MEDICAL COLLEGE.

### CHARGES FOR INSTRUCTION.

#### FIRST YEAR.

Matriculation .....	\$5.00
Tuition .....	150.00
Laboratory Fees .....	35.00
	<hr/>
	\$190.00

To secure payment for breakage of instruments, apparatus, etc., each student is required to deposit with the treasurer \$10. This deposit, less the amount charged for breakage, will be returned at the end of the year.

### BOARD AND ROOMS.

A student's expenses at Cornell, beyond the stated University fees and a small outlay for books and instruments, depend in large measure on his personal tastes and habits. His expenses, other than those for board and room, may be estimated at the normal rate prevailing throughout that section of the country in which Ithaca is situated.

The University possesses no dormitories for men students. There are, however, in Ithaca many private boarding and rooming houses near the University Campus. In these the cost of board and furnished room, with heat and light, varies from \$5 to \$12 a week. By the formation of clubs, students are sometimes able to reduce their expenses for room and board.

Before engaging rooms, students should carefully examine the sanitary conditions, and should particularly insist on satisfactory and sufficient fire-escapes. In general, room contracts should not be made for longer than a single term. New students are advised to come to Ithaca a few days in advance of the beginning of their University duties in order that they may have ample time to secure room and board before the opening of the college year. The Cornell University Christian Association offers its assistance to new students in the selection of rooming and boarding houses.

The dormitories for women students are Sage College and Sage Cottage. In these buildings, which are exclusively for women students, the total cost of board and rent of furnished rooms with heat and light varies from \$225 to \$300 a year. Both buildings are warmed by steam, lighted by electricity, and, in most cases, the sleeping apartment is separate from the study.

The University Adviser of Women has jurisdiction over all women students in the University, and women students are not permitted to board and lodge in houses in which men also board and lodge, unless for special reason approved by the Adviser.

Letters of inquiry in regard to board and rooms at Sage College and Sage Cottage should be addressed to The Business Manager of Sage College, Ithaca, N. Y.

The GRADUATE SCHOOL (Degrees A.M., Ph.D., etc.)  
The COLLEGE OF ARTS AND SCIENCES (Degree A.B.)  
The COLLEGE OF LAW (Degree LL.B.)  
The MEDICAL COLLEGE\* (Degree M.D.)



CORNELL UNIVERSITY MEDICAL COLLEGE.

The NEW YORK STATE VETERINARY COLLEGE (Degree D.V.M.)  
The COLLEGE OF AGRICULTURE (Degree B.S. in Agr.)  
The COLLEGE OF ARCHITECTURE (Degree B.Arch.)  
The COLLEGE OF CIVIL ENGINEERING (Degree C.E.)  
The SIBLEY COLLEGE OF MECHANICAL ENGINEERING AND MECHANIC ARTS  
(Degree M.E.)

*For copies of the University Register and for additional information, apply to*

REGISTRAR, CORNELL UNIVERSITY,

Ithaca, N. Y.

\*The full four-year course of the CORNELL UNIVERSITY MEDICAL COLLEGE is given in the City of New York; the work of the first year is also given at Ithaca, where it may be taken by men students, and where it must be taken by women students. Both men and women students take the last three years of the course in New York City. Special announcements of the Medical College and information of every kind regarding it will be furnished on application to

SECRETARY, Cornell University Medical College,

First Avenue and 28th Street, New York City.

Or,

SECRETARY, Cornell University Medical College,

Stimson Hall, Ithaca, N. Y.











